STN SEARCH TRANSCRIPT

10/648,636 ~~10/938,18~~

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* * * * * * * * * *  Welcome to STN International  * * * * * * * * * *

 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  FEB 28  PATDPAFULL - New display fields provide for legal status
                  data from INPADOC
 NEWS  4  FEB 28  BABS - Current-awareness alerts (SDIs) available
 NEWS  5  MAR 02  GBFULL: New full-text patent database on STN
 NEWS  6  MAR 03  REGISTRY/ZREGISTRY - Sequence annotations enhanced
 NEWS  7  MAR 03  MEDLINE file segment of TOXCENTER reloaded
 NEWS  8  MAR 22  KOREAPAT now updated monthly; patent information enhanced
 NEWS  9  MAR 22  Original IDE display format returns to REGISTRY/ZREGISTRY
 NEWS  10 MAR 22  PATDPASPC - New patent database available
 NEWS  11 MAR 22  REGISTRY/ZREGISTRY enhanced with experimental property tags
 NEWS  12 APR 04  EPFULL enhanced with additional patent information and new
                  fields
 NEWS  13 APR 04  EMBASE - Database reloaded and enhanced
 NEWS  14 APR 18  New CAS Information Use Policies available online
 NEWS  15 APR 25  Patent searching, including current-awareness alerts (SDIs),
                  based on application date in CA/CAplus and USPATFULL/USPAT2
                  may be affected by a change in filing date for U.S.
                  applications.
 NEWS  16 APR 28  Improved searching of U.S. Patent Classifications for
                  U.S. patent records in CA/CAplus
 NEWS  17 MAY 23  GBFULL enhanced with patent drawing images
 NEWS  18 MAY 23  REGISTRY has been enhanced with source information from
                  CHEMCATS
 NEWS  19 JUN 06  The Analysis Edition of STN Express with Discover!
                  (Version 8.0 for Windows) now available
 NEWS  20 JUN 13  RUSSIAPAT: New full-text patent database on STN
 NEWS  21 JUN 13  FRFULL enhanced with patent drawing images
 NEWS  22 JUN 27  MARPAT displays enhanced with expanded G-group definitions
                  and text labels
 NEWS  23 JUL 01  MEDICONF removed from STN
 NEWS  24 JUL 07  STN Patent Forums to be held in July 2005
 NEWS  25 JUL 13  SCISEARCH reloaded
 NEWS  26 JUL 20  Powerful new interactive analysis and visualization software,
                  STN AnaVist, now available
 NEWS  27 AUG 11  Derwent World Patents Index(R) web-based training during
                  August
 NEWS  28 AUG 11  STN AnaVist workshops to be held in North America

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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 NEWS WWW      CAS World Wide Web Site (general information)

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  * * * * * * * * * * * * * STN  Columbus * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 09:04:10 ON 17 AUG 2005

=> FILE REG
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 0.21       0.21

FILE 'REGISTRY' ENTERED AT 09:04:20 ON 17 AUG 2005
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STRUCTURE FILE UPDATES:   16 AUG 2005  HIGHEST RN 860495-66-5
DICTIONARY FILE UPDATES:  16 AUG 2005  HIGHEST RN 860495-66-5

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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*************************************************************
*                                                           *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information.*
*                                                           *
*************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

Experimental and calculated property data are now available.  For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end


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Uploading C:\Program Files\Stnexp\Queries\MIRTAZEPINE INTERMEDIATE.str
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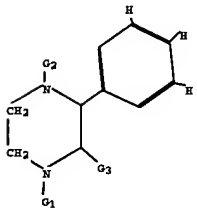

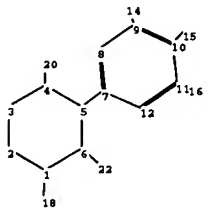

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chain nodes :
14  15  16  18  20  22
ring nodes :
1  2  3  4  5  6  7  8  9  10  11  12
chain bonds :
1-18  4-20  5-7  6-22  9-14  10-15  11-16
ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  7-8  7-12  8-9  9-10  10-11  11-12
exact/norm bonds :
1-2  1-6  1-18  2-3  3-4  4-5  4-20  5-6  6-22
exact bonds :
5-7  9-14  10-15  11-16
normalized bonds :
7-8  7-12  8-9  9-10  10-11  11-12
isolated ring systems :
containing 1 : 7 :


G1:H,CH3

G2:H,CH2

G3:H,O

Match level :
1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom
11:Atom  12:Atom  14:CLASS  15:CLASS  16:CLASS  18:CLASS  20:CLASS  22:CLASS



L1      STRUCTURE UPLOADED

=> que L1

L2   QUE L1

=> D L2
L2 HAS NO ANSWERS
L1              STR
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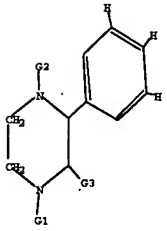

```
G1 H,Me
G2 H,CH2
G3 H,O


Structure attributes must be viewed using STN Express query preparation.
L2              QUE  ABB=ON  PLU=ON  L1


=> S L2 SSS FULL
FULL SEARCH INITIATED 09:09:34 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 129579 TO ITERATE

100.0% PROCESSED   129579 ITERATIONS                          185 ANSWERS
SEARCH TIME: 00.00.02

L3          185 SEA SSS FUL L1

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Uploading C:\Program Files\Stnexp\Queries\MIRTAZEPINE INTERMEDIATE.str
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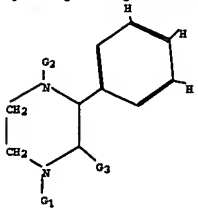
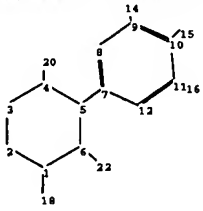




```
chain nodes :
14  15  16  18  20  22
```

ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
1-10 4-20 5-7 6-22 9-14 10-15 11-16
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds :
1-2 1-6 1-10 2-3 3-4 4-5 4-20 5-6 6-22
exact bonds :
5-7 9-14 10-15 11-16
normalized bonds :
7-8 7-12 8-9 9-10 10-11 11-12
isolated ring systems :
containing 1 : 7 :

G1:H,CH3

G2:H,CH2

G3:H,O

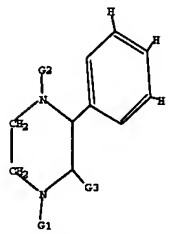
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 14:CLASS 15:CLASS 16:CLASS 18:CLASS 20:CLASS 22:CLASS

L4 STRUCTURE UPLOADED

=> que L4

L5 QUE L4

=> D L5
L5 HAS NO ANSWERS
L4 STR



G1 H,Me
G2 H,CH2
G3 H,O

Structure attributes must be viewed using STN Express query preparation.

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2003-531927P P 20031222
US 2004-548090P P 20040224
US 2004-548604P P 20040227
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to a group of novel amino-substituted dibenzazepines I, benzazepines II and related clozapine analogs, which are agonists of muscarinic receptors. In compds. I and II, W is N, CH, O, or S; Y is N, O, or CH; R1, R6, and R7 are independently absent or selected from H, halo, amino, (un)substituted C1-20 alkyl, (un)substituted C3-8 cycloalkyl, (un)substituted aryl, etc., or R1R6 is -CH2CH2-; each R2, R3, R4, and R5 is independently selected from H, halo, (un)substituted C1-6 alkyl, (un)substituted C1-6 alkoxy, cyano, etc., or R2 and R3, or R3 and R4, or R4 and R5 taken together, along with the ring carbons to which they are attached, form a 5- or 6-membered cycloalkyl, heterocyclyl or heteroaryl ring, or a 6-membered aryl ring; Z is (un)substituted NH, O, S, or CH2; and R8 and R9 are independently selected from H, halo, (un)substituted C1-6 alkyl, (un)substituted C1-6 alkoxy, cyano, etc., or R8 and R9 taken together, along with the ring carbons to which they are attached, form a 5- or 6-membered cycloalkyl, heterocyclyl or heteroaryl ring, or a 6-membered aryl ring; including pharmaceutically acceptable salts, esters, amides or prodrugs of these, provided that compound I is not clozapine or N-desmethylclozapine. The invention also relates to the preparation of I, preparation of a combinatorial library of compds. I, pharmaceutical compns. containing compound I with a physiol. acceptable carrier, diluent, or excipient, optionally including a neuropsychiatric agent as well as to the use of the compns. for treating neuropsychiatric disorders. Substitution of 4-chloro-2-fluoronitrobenzene with 2-amino-5-chlorobenzoic acid followed by reduction of the nitro group, ring-closing coupling, and condensation with piperazine gave dibenzodiazepine III. The compds. of the invention express efficacy (eff) at muscarinic M1 receptors in the range of -11 to 92 and potency (expressed as pEC50) of 5.5 to 7.2; the compds. had eff at M2 receptors of -14 to 107 and pEC50 of 5.4 to 6.6.
IT 5271-26-1, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation of amino-substituted diarylcycloheptene analogs as muscarinic agonists and methods of treatment of neuropsychiatric disorders)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L5 QUE ABB=ON PLU=ON L4

=> S L5 SSS FULL
FULL SEARCH INITIATED 09:10:42 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 129579 TO ITERATE

100.0% PROCESSED 129579 ITERATIONS 181 ANSWERS
SEARCH TIME: 00.00.04

L6 181 SEA SSS FUL L4

=> FILE CAPLUS
COST IN U.S. DOLLARS SINCE FILE ENTRY 326.53 TOTAL SESSION 326.74
FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 09:10:50 ON 17 AUG 2005
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FILE COVERS 1907 - 17 Aug 2005 VOL 143 ISS 8
FILE LAST UPDATED: 16 Aug 2005 (20050816/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S L6
L7 120 L6

=> D 1-120 IBIB ABS HITSTR

L7 ANSWER 1 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:612094 CAPLUS
DOCUMENT NUMBER: 143:133403
TITLE: Amino-substituted diaryl[a,d]cycloheptene analogs as muscarinic agonists, their preparation and use in the treatment of neuropsychiatric disorders
INVENTOR(S): Ek, Fredrik; Olsson, Roger; Ohlsson, Joergen
PATENT ASSIGNEE(S): Acadia Pharmaceuticals Inc., USA
SOURCE: PCT Int. Appl., 129 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063254	A2	20050714	WO 2004-US43224	20041221

L7 ANSWER 2 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:23845 CAPLUS
DOCUMENT NUMBER: 143:47878
TITLE: Synthesis of 2-phenylpiperazine
AUTHOR(S): Xu, Yungen; Han, Chunxia; Gu, Jinfeng; Luo, Sui
CORPORATE SOURCE: Center of Drug Discovery, China Pharmaceutical University, Nanjing, 210009, Peop. Rep. China
SOURCE: Zhongguo Yiyao Gongye Zazhi (2003), 34(11), 545-546
CODEN: ZYGZEA; ISSN: 1001-8255
PUBLISHER: Zhongguo Yiyao Gongye Zazhi Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 143:47878
AB 2-Phenylpiperazine, an intermediate of mirtazapine was synthesized from phenylacetic acid by reaction with phosphorus trichloride and bromine to give Et α-bromophenyl acetate which reacted with ethylenediamine followed by reduction with lithium aluminum hydride. The overall yield was 31.7%.
IT 5271-26-1P, 2-Phenylpiperazine 5368-28-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of 2-phenylpiperazine)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 3 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:1036760 CAPLUS
DOCUMENT NUMBER: 142:23309
TITLE: Process for preparing 1-methyl-3-phenylpiperazine using a novel intermediate
INVENTOR(S): Handa, Vijay Kumar; Rao, Divvela Venkata Naga Srinivasa; Sivakumaran, Meenakshisunderam
PATENT ASSIGNEE(S): India
SOURCE: U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

* APPLICANTS *

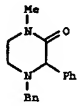
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242879	A1	20041202	US 2003-648636	20030826
WO 2004106309	A1	20041209	WO 2004-IB1125	20040329

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: IN 2003-MA442 A 20030602
OTHER SOURCE(S): CASREACT 142:23309
GI

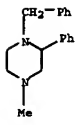

I


II

AB The present invention describes an industrially advantageous process to prepare highly pure 1-methyl-3-phenylpiperazine (I) that makes use of a novel piperazine derivative, 4-benzyl-1-methyl-2-oxo-3-phenylpiperazine (II). The compound I is a useful intermediate in the preparation of antidepressant Mirtazepine. Thus, 100 g 4-benzyl-2-oxo-3-phenylpiperazine was added dropwise over 30 min to a suspension of 15.3 g NaH (65% dispersion in oil) in DMF, followed by slowly adding 64 g MeI in 50 mL DMF in 45° at <25°, and the mixture was allowed to react for 1 h to give, after workup and crystallization from cyclohexane, 98.5 g II (93.8%). II (90 g) was added slowly in 1 h at 10-15° to a suspension of LiAlH4 in 450 mL THF and then the reaction mixture was refluxed for 6 h, quenched by successively adding 45 mL H2O and 15% aqueous NaOH, and stirred at 20-25° for 1 h to give, after workup, 80 g 4-benzyl-1-methyl-3-phenylpiperazine (III) (80%). III (60 g) was dissolved in 300 mL AcOH, treated with 3 g 5% Pd-C, and hydrogenated at 80-100 psi and 25-30° for 4 h to give, after workup, I (100% HPLC purity).

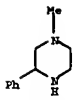
IT 23174-98-3P, 4-Benzyl-1-methyl-3-phenylpiperazine
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; process for preparing high-purity 1-methyl-3-phenylpiperazine using 4-benzyl-1-methyl-2-oxo-3-phenylpiperazine as novel intermediate)

RN 23174-98-3 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



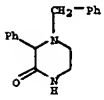
IT 5271-27-2P, 1-Methyl-3-phenylpiperazine
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(process for preparing high-purity 1-methyl-3-phenylpiperazine using 4-benzyl-1-methyl-2-oxo-3-phenylpiperazine as novel intermediate)

RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

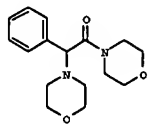


IT 5368-23-0, 4-Benzyl-2-oxo-3-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; process for preparing high-purity 1-methyl-3-phenylpiperazine using 4-benzyl-1-methyl-2-oxo-3-phenylpiperazine as novel intermediate)

RN 5368-23-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



L7 ANSWER 4 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:887366 CAPLUS
DOCUMENT NUMBER: 142:56271
TITLE: Novel synthesis of α-amino carboxamides and their related compounds via α-oxo sulfones starting from 2,2-disulfonyloxiranes
AUTHOR(S): Matsumoto, Shoji; Ishii, Michiko; Kimura, Kazuto; Ogura, Katsuyuki
CORPORATE SOURCE: Department of Applied Chemistry and Biotechnology, Faculty of Engineering, Chiba University, Chiba, 263-8522, Japan
SOURCE: Bulletin of the Chemical Society of Japan (2004), 77(10), 1897-1903
CODEN: BCSJA8; ISSN: 0009-2673
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
GI


I

AB 2-(Methylsulfonyl)-2-(p-tolylsulfonyl)oxiranes were easily prepared by the condensation of methylthiomethyl p-tolyl sulfone with aldehydes and the subsequent oxidation with MCPBA. They smoothly reacted with primary or secondary amines to give α-amino carboxamides, e.g., I, in high yield. This reaction was extended to the reaction with diaminoalkanes to form the corresponding 2,5-diazacyclohexanone, 2,6-diazacycloheptanone, or 2,7-diazacyclooctanone. The reaction of the oxiranes with some related compds. having two nucleophilic sites are also described.

IT 5368-28-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of α-amino carboxamides via condensation of methylthiomethyl tolyl sulfone with aldehydes followed by epoxidn., ring opening/amidation with amines and diamines)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

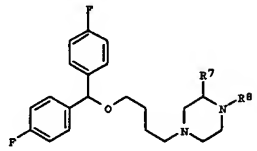
REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:606436 CAPLUS
DOCUMENT NUMBER: 141:157135
TITLE: Preparation of piperidine and piperazine derivatives with dopaminergic neurotransmitter system activity for diagnostic and therapeutic uses
INVENTOR(S): Elmaleh, David R.; Choi, Sangwoon; Fishman, Alan J.
PATENT ASSIGNEE(S): The General Hospital Corporation, USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004063150	A2	20040729	WO 2003-US41731	20031231
WO 2004063150	A3	20050602		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-437885P P 20030106
OTHER SOURCE(S): MARPAT 141:157135
GI


I

AB Piperazine derivs., such as I [R7 = H, Ph, :O; R8 = H, Ph, COMe, COPh, halophenyl, nitrophenyl, nitrophenylsulfonyl, piperonyl], were prepared for use in treating neurodegenerative diseases characterized by the lack of dopamine neurons activity or for imaging the dopamine neurons. Thus, piperazine derivative II (R7 = R8 = H) was prepared via an amination reaction with 30% yield of (F-4-C6H4)2CHO(CH2)4Cl and piperazine using K2CO3 in DMF. The prepared piperazines were assayed. for binding affinities at the DA, 5-HT and NE transporters labeled with [125I]RTI-55.

IT 5271-26-1P, 2-Phenylpiperazine 5368-28-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperidine and piperazine derivs. with dopaminergic neurotransmitter system activity for diagnostic and therapeutic uses)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

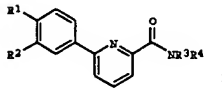
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 6 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:586832 CAPLUS
DOCUMENT NUMBER: 141:140318
TITLE: Preparation of (phenyl)pyridine derivatives as selective phosphodiesterase 4 inhibitors for treatment of respiratory disorders
INVENTOR(S): Iwata, Masahiro; Kono, Norimasa; Kaizawa, Hiroyuki; Takuwa, Tomofumi; Tsukamoto, Kazunari; Seo, Tatsushi; Yahiro, Kiyoshi; Kobayashi, Tsuyoshi; Takeuchi, Makoto; Yoshida, Shinya; Nakamura, Haruka
PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 58 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004203871	A2	20040722	JP 2003-414006	20031212
PRIORITY APPLN. INFO.:			JP 2002-361550 A	20021213

OTHER SOURCE(S): CASREACT 141:140318; MARPAT 141:140318
GI



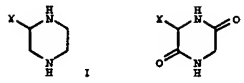
I

AB Title compns., useful for treatment of asthma and chronic obstructive pulmonary disease, contain pyridines I [R1, R2 = H, halo, lower alkyl(oxy), (lower alkyl)amino, O-lower alkylene-NH-lower alkyl, hetero-lower alkoxy, etc.; R1R2 may be linked to form lower alkylenedioxy; R3 = lower alkenyl, lower alkynyl, (un)substituted cyclic hydrocarbyl, (un)substituted heterocyclic, etc.; R4 = H, lower alkyl, lower alkenyl, lower alkynyl, (un)substituted cyclic hydrocarbyl, (un)substituted heterocyclic, etc.] or their pharmaceutically acceptable salts, and carriers. Thus, amidation of 6-(3,4-dimethoxyphenyl)pyridine-2-carboxylic acid with 4-(4-methoxyphenyl)piperazine gave I [R1 = R2 = MeO, R3R4 = 4-(4-methoxyphenyl)piperazinyl], which inhibited phosphodiesterase 4 with IC50 of <12 nM.
IT 5368-28-5, 2-Oxo-3-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyridines as selective phosphodiesterase 4 inhibitors for treatment of respiratory disorders)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 7 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:410230 CAPLUS
DOCUMENT NUMBER: 140:375184
TITLE: An improved process for the preparation of α-substituted piperazines
INVENTOR(S): Sengupta, Sreela; Sahu, Devi Prasad; Chaterjee, Sunil Krishna
PATENT ASSIGNEE(S): Council of Scientific and Industrial Research, India
SOURCE: Indian, 12 pp.
CODEN: INXXAP
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 179274	A	19970920	IN 1992-DE1075	19921120
PRIORITY APPLN. INFO.:			IN 1992-DE1075	19921120

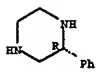
OTHER SOURCE(S): CASREACT 140:375184
GI



I II

AB An improved process for the preparation of α-substituted piperazines [I; X = Ph, indolylmethyl] which comprises adding dropwise BF3•Et2O to 2,5-diketopiperazine II [X has the meaning given above] and an excess of NaBH4 in an aprotic solvent to form B2H6 in situ, heating the resulting mixture at a temperature in the range of 5-65°C for 8-36 h to complete the reaction to yield α-substituted piperazine I [X has the meaning given above]. Thus, adding BF3•Et2O to a solution of (R)-3-phenyl-2,5-diketopiperazine and NaBH4 in THF followed by refluxing for 12 h afforded 91% (R)-(-)-2-phenylpiperazine.HCl.
IT 684283-07-6P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(improved process for the preparation of α-substituted piperazines)
RN 684283-07-6 CAPLUS
CN Piperazine, 2-phenyl-, hydrochloride, (2R)- (9CI) (CA INDEX NAME)

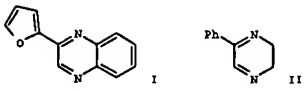
Absolute stereochemistry. Rotation (-).



●x HCl

L7 ANSWER 8 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:154043 CAPLUS
DOCUMENT NUMBER: 140:423642
TITLE: Tandem oxidation processes for the preparation of nitrogen-containing heteroaromatic and heterocyclic compounds
AUTHOR(S): Raw, Steven A.; Wilfred, Cecilia D.; Taylor, Richard J. K.
CORPORATE SOURCE: Department of Chemistry, University of York, Heslington, YO10 5DD, UK
SOURCE: Organic & Biomolecular Chemistry (2004), 2(5), 788-796
CODEN: OBCRAK; ISSN: 1477-0520
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:423642

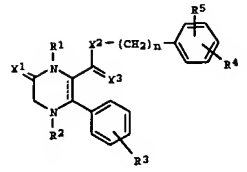
GI



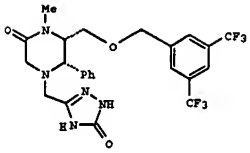
I II

AB α-Hydroxy ketones underwent manganese dioxide-mediated oxidation followed by trapping with aromatic or aliphatic 1,2-diamines to give quinoxalines, e.g., I, or dihydropyrazines, e.g., II, resp., in a one-pot procedure, avoiding the need to isolate the highly reactive dicarbonyl intermediates. The scope, limitations, and modifications of this procedure, in which reduction was carried out in the same reaction vessel, generating piperazines, or oxidation, leading to pyrazines, are also discussed.
IT 5271-26-1P, 2-Phenylpiperazine
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of piperazines via oxidation of α-hydroxy ketones followed by reductive heterocyclization with aliphatic diamines)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



I



II

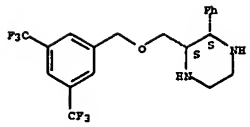
L7 ANSWER 9 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:696533 CAPLUS
DOCUMENT NUMBER: 139:230789
TITLE: Preparation of 2-phenylpiperazine derivatives as tachykinin antagonists
INVENTOR(S): Ogino, Takashi; Konishi, Yukari; Higashiura, Kunihiko; Furukawa, Kazuhito
PATENT ASSIGNEE(S): Nippon Zoki Pharmaceutical Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003166616	A1	20030904	US 2003-370918	20030220
US 6906074	B2	20050614		
CA 2419665	AA	20030822	CA 2003-2419665	20030221
JP 2003313173	A2	20031106	JP 2003-43980	20030221
PRIORITY APPLN. INFO.:			JP 2002-45562 A	20020222

OTHER SOURCE(S): MARPAT 139:230789
GI

AB Excellent tachykinin receptor antagonistic activity is provided by 2-phenylpiperazine derivs. The piperazine derivs. exhibit a strong inhibitory action against a tachykinin-induced increase of vascular permeability in in vivo tests. Moreover, the derivs. show a preferred transfer into blood, a long half-life in blood in pharmacokinetic tests of oral administration to rats or guinea pigs, and are very stable in blood plasma of various animals (not claimed and data not given). Consequently, a piperazine derivative of the present invention is very useful as a tachykinin antagonist. 2-Phenylpiperazines I [X1, X3 = O, H2; X2 = O, NH, NMe; n = 0, 1; R1 = H, alkyl; R2 = H, CN, tetrazolyl, aminotriazolyl, mesyl, CO2CMe3, (un)substituted alkyl; R3 = H, halogen, alkyl, alkoxy; R4, R5 = H, alkoxy, CF3] were prepared for use as a tachykinin antagonist. Thus, the piperazine II was prepared from D-serine and has IC50 for human NK1 receptor binding of 0.04 nMol/L and had a much stronger inhibitory effect against tachykinin-induced increase in vascular permeability than LY-303870.
IT 586396-79-4P 586396-80-7P 586396-81-8P
586397-03-7P 586397-07-1P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 2-phenylpiperazines as tachykinin antagonists)
RN 586396-79-4 CAPLUS
CN Piperazine, 2-[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-3-phenyl-, dihydrochloride, (2S,3S)- (9CI) (CA INDEX NAME)

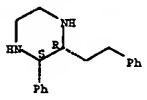
Absolute stereochemistry.



●2 HCl

RN 586396-80-7 CAPLUS
CN Piperazine, 2-phenyl-3-(2-phenylethyl)-, dihydrochloride, (2S,3R)- (9CI) (CA INDEX NAME)

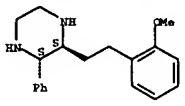
Absolute stereochemistry.



●2 HCl

RN 586396-81-8 CAPLUS
CN Piperazine, 2-[2-(2-methoxyphenyl)ethyl]-3-phenyl-, dihydrochloride, (2S,3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 HCl

RN 586397-03-7 CAPLUS
CN Piperazine, 3-[[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-2-phenyl-1-(phenylmethyl)-, dihydrochloride, (2R,3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of quinoxalines, dihydropyrazines, pyrazines, and piperazines via MnO2-mediated oxidation of α-hydroxy ketones and subsequent trapping with aromatic or aliphatic 1,2-diamines)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:675554 CAPLUS
DOCUMENT NUMBER: 139:197510
TITLE: Preparation of 2-phenylpiperazine derivatives as tachykinin antagonists
INVENTOR(S): Ogino, Takashi; Konishi, Yukari; Higashiura, Kunihiko; Furukawa, Kazuhito
PATENT ASSIGNEE(S): Nippon Zoki Pharmaceutical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 25 pp.
CODEN: EPXKDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

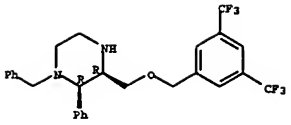
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1338592	A1	20030827	EP 2003-3241	20030221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			EP 2003-3241	20030221

OTHER SOURCE(S): MARPAT 139:197510
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB 2-Phenylpiperazines I [X1, X3 = O, H2; X2 = O, NH, NMe; n = 0, 1; R1 = H, alkyl; R2 = H, CN, tetrazolyl, aminotriazolyl, mesyl, CO2CMe3, (un)substituted alkyl; R3 = H, halogen, alkyl, alkoxy; R4, R5 = H, alkoxy, CF3) were prepared for use as a tachykinin antagonist. Thus, the piperazine II was prepared from D-serine and has IC50 for human NK1 receptor binding of 0.04 nMol/L and had a much stronger inhibitory effect against tachykinin-induced increase in vascular permeability than LY-303870.
IT 586396-79-4P 586396-80-7P 586396-81-8P
586397-03-7P 586397-07-1P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 2-phenylpiperazine derivs. as tachykinin antagonists)
RN 586396-79-4 CAPLUS
CN Piperazine, 2-[[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-3-phenyl-, dihydrochloride, (2S,3S)- (9CI) (CA INDEX NAME)

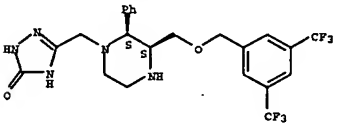
Absolute stereochemistry.



●2 HCl

RN 586397-07-1 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-[[(2S,3S)-3-[[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-2-phenyl-1-piperazinyl]methyl]-1,2-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)

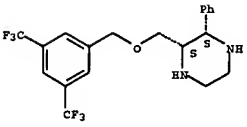
Absolute stereochemistry.



●2 HCl

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

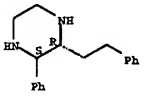
L7 ANSWER 10 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:687441 CAPLUS
DOCUMENT NUMBER: 140:27801
TITLE: Preparation of quinoxalines, dihydropyrazines, pyrazines, and piperazines using tandem oxidation processes
AUTHOR(S): Raw, Steven A.; Wilfred, Cecilia D.; Taylor, Richard J. K.
CORPORATE SOURCE: Department of Chemistry, University of York, York, YO10 5DD, UK
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2003), (18), 2286-2287
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:27801
AB α-Hydroxy ketones undergo MnO2-mediated oxidation followed by in situ trapping with aromatic or aliphatic 1,2-diamines to give quinoxalines or dihydropyrazines, resp., in a one pot procedure which avoids the need to isolate the highly reactive 1,2-dicarbonyl intermediates. Modifications of the procedure allow the formation of pyrazines and piperazines.
IT 5271-26-1P



●2 HCl

RN 586396-80-7 CAPLUS
CN Piperazine, 2-phenyl-3-(2-phenylethyl)-, dihydrochloride, (2S,3R)- (9CI) (CA INDEX NAME)

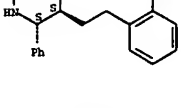
Absolute stereochemistry.



●2 HCl

RN 586396-81-8 CAPLUS
CN Piperazine, 2-[2-(2-methoxyphenyl)ethyl]-3-phenyl-, dihydrochloride, (2S,3S)- (9CI) (CA INDEX NAME)

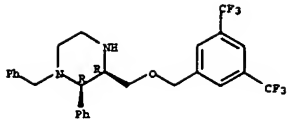
Absolute stereochemistry.



●2 HCl

RN 586397-03-7 CAPLUS
CN Piperazine, 3-[[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-2-phenyl-1-(phenylmethyl)-, dihydrochloride, (2R,3R)- (9CI) (CA INDEX NAME)

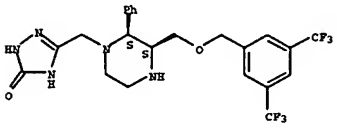
Absolute stereochemistry.



●2 HCl

RN 586397-07-1 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-[[(2S,3S)-3-[[[3,5-bis(trifluoromethyl)phenyl]methoxy]methyl]-2-phenyl-1-piperazinyl]methyl]-1,2-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 HCl

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

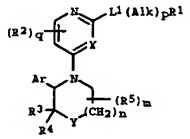
L7 ANSWER 12 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:434554 CAPLUS
DOCUMENT NUMBER: 139:22224
TITLE: Preparation of pyridine and pyrimidine derivatives as p38 α kinase inhibitors
INVENTOR(S): Davis, Jeremy Martin; Langham, Barry John; Naik, Manisha; Brookings, Daniel Christopher; Cubbon, Rachel Jane; Franklin, Richard Jeremy
PATENT ASSIGNEE(S): 'Celltech R & D Limited, UK
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003045941	A1	20030605	WO 2002-GB5196	20021120

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1448555	A1	20040825	EP 2002-777562	20021120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2005080258	A1	20050414	US 2003-495885	20021120
PRIORITY APPLN. INFO.:			GB 2001-27929 A	20011121
			WO 2002-GB5196 W	20021120

OTHER SOURCE(S): MARPAT 139:22224
GI



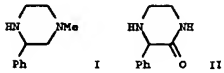
I

AB Title compds. I [X = N, (un)substituted CH; Y = O, S, S(O), SO2, (un)substituted CH2, NH; when R3R4 = O, S, Y = (un)substituted CH2, NH; L1 = covalent bond, linker atom or group; Alk = (un)substituted aliphatic, heteroaliph.; p = 0, 1; n = 0-3; when n = 0, Y = (un)substituted CH2; Ar = (un)substituted aromatic, heteroarom.; m = 0-3; q = 0-2; R1 = H, halogen, CN, NO2, (un)substituted cycloaliph., polycycloaliph., heterocycloaliph., aromatic, heteroarom; when L1 = bond and p = 0, R1 = H, halogen, CN, NO2; R2 = H, halogen, CN, (un)substituted alkyl, OH, SH, CO2H; R3, R4 = H, R5; R3R4 = O, S; R5 = H, O, S, (un)substituted alkyl, OH, SH, CN, CO2H] were prepared for use as p38 α kinase inhibitors, useful in the treatment of immune or inflammatory disorders. Thus, PhCHBrCO2Me was cyclized with H2NCH2CH2NH2 to give 3-phenyl-2-piperazinone which was treated with 2,4-dichloropyrimidine and 3-F3CC6H4CH2NH2 to give 3-phenyl-4-[2-(3-trifluoromethylbenzylamino)pyrimidin-4-yl] piperazin-2-one.
IT 5271-26-1P, 2-Phenylpiperazine 5368-28-5P, 3-Phenyl-2-piperazinone
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyridine and pyrimidine derivs. as p38 α kinase inhibitors)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

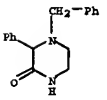
L7 ANSWER 13 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:395665 CAPLUS
DOCUMENT NUMBER: 139:180038
TITLE: An efficient process for preparing 1-methyl-3-phenylpiperazine hydrochloride and its derivatives
AUTHOR(S): Guo, Bai Shu; Yang, Yu She; Ji, Ru Yun
CORPORATE SOURCE: Institute of Materia Medica, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, 200031, Peop. Rep. China
SOURCE: Chinese Chemical Letters (2003), 14(4), 365-367
CODEN: CCLEE7; ISSN: 1001-8417
PUBLISHER: Chinese Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:180038
GI



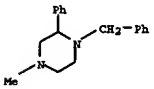
I II

AB An improved method for preparation of the title compound (I·HCl) from 3-phenyl-2-piperazinone (II) via benzylation at N-4, reduction of the CO group, methylation at N-1, and deprotection of N-4 was described. The overall yield of I·HCl from II was ≈80%.
IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of 1-methyl-3-phenylpiperazine hydrochloride)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

IT 5368-23-0P 577955-33-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of 1-methyl-3-phenylpiperazine hydrochloride)
RN 5368-23-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



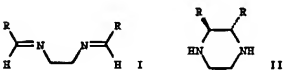
RN 577955-33-0 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)-, monohydrochloride (9CI) (CA INDEX NAME)



●HCl

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:275607 CAPLUS
DOCUMENT NUMBER: 139:6841
TITLE: Diastereoselective Synthesis of Piperazines by Manganese-Mediated Reductive Cyclization
AUTHOR(S): Mercer, Gregory J.; Sigman, Matthew S.
CORPORATE SOURCE: Department of Chemistry, University of Utah, Salt Lake City, UT, 84112-8500, USA
SOURCE: Organic Letters (2003), 5(9), 1591-1594
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:6841
GI

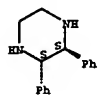


I II

AB Trans aryl-substituted piperazine were prepared via a simple and effective synthesis using a Bronsted acid and manganese(0). Thus, reaction of the bis(imines) I (R = Ph, 2,5-Me2C6H3, 2,4-Me2C6H3, 4-MeOC6H4, 4-ClC6H4, 2-furyl, 2-naphthyl) in MeCN/toluene containing pyridine hydrochloride or F3CCO2H and Mn(0) at room temperature for 5-24 h gave the piperazines II in 80-99% yields.
IT 81602-00-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(diastereoselective preparation of diarylpiperazines by Mn mediated

reductive cyclization of bis(imines))
RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 15 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:242289 CAPLUS
DOCUMENT NUMBER: 138:254962
TITLE: Substituted phenylacetamide derivatives and phenylmethylpiperazine as intermediate compounds for the preparation of mirtazapine and the production methods thereof
INVENTOR(S): Bosch i Llado, Jordi; Camps Garcia, Pelayo; Contreras Lascorz, Juan; Onrubia Miguel, Maria del Carmen
PATENT ASSIGNEE(S): Medichem S.A., Spain
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Spanish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003024918	A1	20030327	WO 2001-ES347	20010914
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2460571	AA	20030327	CA 2001-2460571	20010914
EP 1426356	A1	20040609	EP 2001-969812	20010914
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004236107	A1	20041125	US 2004-488909	20040304
PRIORITY APPLN. INFO.:			WO 2001-ES347 W	20010914
OTHER SOURCE(S):	CASREACT 138:254962; MARPAT 138:254962			

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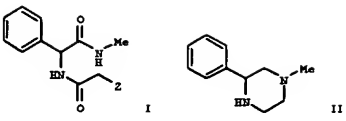
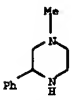


AB The invention relates to novel compds. I [Z = leaving group subject to nucleophilic displacement], which are intermediates used in the preparation of the antidepressant mirtazapine, and to production methods for them. The invention method is used to produce (±)-3-phenyl-1-methylpiperazine (II), which is also an important intermediate for the production of mirtazapine. The preparative method involves cyclization of I in the presence of a reducing agent. The invention also relates to a method of producing I. For instance, esterification of DL- α-phenylglycine in MeOH in the presence of HCl at room temperature gave 94.3% Me ester, which reacted with MeNH2 in aqueous solution at 21° (slightly exothermic) to give 99.6% N-methylamide. Reaction of the latter with ClCH2COCl in acetone in the presence of Na2CO3 at 0-5° gave 83.55% I [Z = Cl] with 99.9% purity. Reductive cyclization of this chloro diamide using BH3.THF in refluxing THF (81.97%) or NaBH4 and HCl in MeOCH2CH2OMe at 0-5° (96.15%) gave II.
IT 5271-27-2P, (±)-3-Phenyl-1-methylpiperazine
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(invention intermediate; preparation of (chloroacetamido)methylphenylacetamide and phenylmethylpiperazine as intermediates for mirtazapine)
RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 16 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:221465 CAPLUS
DOCUMENT NUMBER: 138:255249
TITLE: Preparation of piperazine and homopiperazine compounds useful in the treatment of thrombosis and to inhibit ADP-mediated platelet aggregation
INVENTOR(S): Levy, Daniel E.; Smyth, Mark S.; Scarborough, Robert M.
PATENT ASSIGNEE(S): Millennium Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 260 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022214	A2	20030320	WO 2002-US28618	20020906
WO 2003022214	A3	20040325		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003153556	A1	20030814	US 2002-237153	20020906
PRIORITY APPLN. INFO.:			US 2001-317192P P	20010906
OTHER SOURCE(S):	MARPAT 138:255249			

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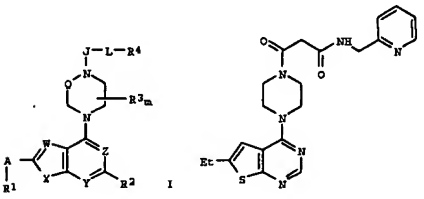

AB Piperazine and homopiperazine compds. I, wherein Q is (CH2)n; n is 1, 2; m is 0-4; W is N, CR5; X is S, O, NR6; Y is N, CR7; Z is N, CR8; J is CO, CS, CNR9, SO, SO2; A is O, S, NR10, CO, CH(OH); L is a direct link or a divalent linker; R1 is H, halo, CN, NO2, N3, alkyl, cycloalkyl, alkene, alkyne; R2 is H, halo, CN, NO2, N3, alkyl, cycloalkyl, alkene, alkyne, acyl; R3 is alkyl, cycloalkyl, acyl; R4 is H, F, CF3, CN, N3, NO2, alkyl, amino, alkylamino, cycloalkyl, heterocycloalkyl, heteroalkyl, fused bicycloalkyl, fused bicycloalkaryl, fused bicycloaryl; R5-R8 are independently H, alkyl, cycloalkyl; R9 is H, CN, NO2, alkyl; R10 is H, alkyl, acyl; are provided having a piperazine or homopiperazine ring which are useful in the treatment of thrombosis. Thus piperazine II was prepared and tested in vitro to inhibit ADP-mediated platelet aggregation (activity ranges are: > 20 μmol; 10-20 μmol; and < 10 μmol).
IT 5271-26-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperazine and homopiperazine compds. useful in treatment of thrombosis and to inhibit ADP-mediated platelet aggregation)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 17 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:977792 CAPLUS
DOCUMENT NUMBER: 138:55982
TITLE: Preparation of 1-(6-phenylpyridine-2-carbonyl)piperazine derivatives as phosphodiesterase (PDE) IV inhibitors
INVENTOR(S): Iwata, Masahiro; Kawano, Noriyuki; Kaizawa, Hiroyuki; Takuwa, Tomofumi; Tsukamoto, Issei; Seo, Ryushi; Yahiro, Kiyoshi; Kobayashi, Miki; Takeuchi, Makoto
PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002102778	A1	20021227	WO 2002-JP5926	20020613
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2448298	AA	20021227	CA 2002-2448298	20020613
JP 2003064057	A2	20030305	JP 2002-172377	20020613
EP 1396487	A1	20040310	EP 2002-738703	20020613
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1516691	A	20040728	CN 2002-811842	20020613
BR 2002010030	A	20040810	BR 2002-10030	20020613
US 2004192701	A1	20040930	US 2003-480543	20031212
PRIORITY APPLN. INFO.:			JP 2001-182296 A	20010615
			WO 2002-JP5926 W	20020613
OTHER SOURCE(S):	MARPAT 138:55982			

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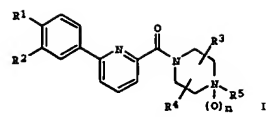
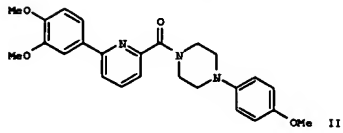




AB The title compds. I [wherein R1 and R2 = independently H, halo, alkyl, (un)substituted alkyloxy, amino, alkylamino(alkoxy), dialkylamino(alkoxy), NHCO-alkyl, O-alkylene-CO2R0, or (hetero)cyclylalkoxy; or R1 and R2 together form a ring; R0 = H, alkyl, or (un)substituted PhCH2; R3 and R4 = independently H, (un)substituted alkyl, halo, CO2R0, CONH2, CONR0-alkyl, (un)substituted (hetero)cyclyl(carbonyl), alkyl-CO, or CN; or R3 and R4 together are alkylene or oxo; R5 = H, alkyl, (alkylene)CO2R0, CONH2, CONR0-alkyl, alkyl-CO, (un)substituted (hetero)cyclyl(hydrocarbonyl), (hetero)cyclyl(alkylenyl)(carbonyl), CO2-alkylene-(hetero)cyclyl, or carbamoyl, etc.; n = 0-1; with provisos] and pharmaceutically acceptable salts thereof are prepared as PDE IV inhibitors. I are useful for the prevention and treatment of respiratory tract diseases, asthma, and chronic obstructive pulmonary diseases (COPD) (no data). For example, a THF solution of 6-(3,4-dimethoxyphenyl)pyridine-2-carboxylic acid (prepn given) was treated with oxalic chloride, followed by the addition of 4-(4-methoxyphenyl)piperazine (prepn given) in the presence of pyridine to afford the piperazine II. II showed IC50 of <12 nM against PDE IV.

IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of phenylpyridinecarbonylpiperazine derivs. as PDE IV inhibitors)

RN 5368-28-5 CAPLUS

CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 18 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:868916 CAPLUS
DOCUMENT NUMBER: 137:370108
TITLE: Methylation-debenzylation process for preparing 1-methyl-3-phenylpiperazine from 1-benzyl-2-phenylpiperazine and formaldehyde
INVENTOR(S): Rao, Davuluri Ramamohan; Rao, Chunduru Sankara; Sreenivasulu, Pamujula
PATENT ASSIGNEE(S): Neuland Laboratories Limited, India
SOURCE: PCT Int. Appl., 9 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002090339	A1	20021114	WO 2002-IN117	20020506

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

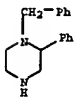
PRIORITY APPLN. INFO.: IN 2001-MA364 A 20010508
OTHER SOURCE(S): CASREACT 137:370108

AB A process for preparing 1-methyl-3-phenyl-piperazine, which comprises: (i) conducting a regioselective methylation via mixing 1-benzyl-2-phenylpiperazine with a formic acid solution while stirring and then adding a formaldehyde solution and heating the mixture to 70-80 ° for 50-70 min; (ii) reheating the obtained solution of step (i) to 90-95° for 50-70 min; (iii) checking the obtained mass of step (ii) for the absence of the starting material and treating the mixture with sodium hydroxide solution while stirring for 50-70 min at <25° and filtering; (iv) washing the product of step (iii) with water and drying to obtain 1-benzyl-4-methyl-2-phenylpiperazine; (v) the step (iv) product is subjected to a hydrogenolytic debenzylation using a Pd/C catalyst at a hydrogen pressure of 3.5-4.0 kg/cm2 for 6-10 h followed by product workup.

IT 5368-33-2, 1-Benzyl-2-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(methylation-debenzylation process for preparing 1-methyl-3-phenylpiperazine from 1-benzyl-2-phenylpiperazine and formaldehyde)

RN 5368-33-2 CAPLUS

CN Piperazine, 2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



IT 5271-27-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(methylation-debenzylation process for preparing 1-methyl-3-phenylpiperazine from 1-benzyl-2-phenylpiperazine and formaldehyde)

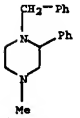
RN 5271-27-2 CAPLUS

CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

IT 23174-98-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(methylation-debenzylation process for preparing 1-methyl-3-phenylpiperazine from 1-benzyl-2-phenylpiperazine and formaldehyde with intermediate preparation of)

RN 23174-98-3 CAPLUS

CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 19 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:767304 CAPLUS
DOCUMENT NUMBER: 138:362130
TITLE: Synthesis and NK1/NK2 binding activities of a series of diacyl-substituted 2-arylpiperazines
AUTHOR(S): Blythin, David J.; Chen, Xiao; Piwinski, John J.; Shih, Neng-Yang; Shue, Ho-Jane; Anthes, John C.; McPhail, Andrew T.
CORPORATE SOURCE: Chemical Research Department, Schering-Plough Research Institute, Kenilworth, NJ, 07033, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (2002), 12(21), 3161-3165
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:362130

AB The synthesis and binding affinity for hNK1 and hNK2 receptors of a series of diacyl substituted 2-aryl piperazines are described. SAR evaluation led to one racemic derivative as an apparent dual inhibitor. Chiral chromatog. separation of racemic derivative led to the observation that NK1 activity was shown by one enantiomer and NK2 activity was shown by the other enantiomer. X-ray crystallog. anal. of the crystalline di-BOC derivative of the NK2 active piperazine showed that the 2R configuration was associated with NK2 activity. Further derivatization indicated that dual NK1/NK2 activity could be built into the 2R series.

IT 5271-26-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and NK1/NK2 binding structure-activities of a series of diacyl-substituted 2-arylpiperazines)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 20 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:368461 CAPLUS
DOCUMENT NUMBER: 136:369741
TITLE: A novel method for preparation of piperazine and its derivatives
INVENTOR(S): Sebastian, Sonny; Patel, Hetal Virendra; Thennati, Rajamannar
PATENT ASSIGNEE(S): Sun Pharmaceutical Industries Ltd., India
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038552	A1	20020516	WO 2001-IN129	20010629

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2001078669	A5	20020521	AU 2001-78669	20010629
BE 1013317	A6	20011106	BE 2001-513	20010727
CH 692342	A	20020515	CH 2001-1428	20010802
US 2002095038	A1	20020718	US 2001-37309	20011025
US 6603003	B2	20030805		
PRIORITY APPLN. INFO.:			IN 2000-MU994	A 20001107
			WO 2001-IN129	W 20010629

OTHER SOURCE(S): CASREACT 136:369741; MARPAT 136:369741

GI

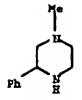
AB Compds. I [R = H, C1-6 alkyl, phenyl-C1-4 alkyl; R1 = H, Me, (un)substituted phenyl; R2 = H, Me, fluoromethyl] useful as starting

materials for preparation of pharmaceutically active compds. are prepared by reacting RICOCO2R with HNCH2CHR2NHR to give 3,4-dehydropiperazine-2-one and its derivs., followed by reacting with a reducing agent to yield I. Thus, 1-methyl-3-phenylpiperazine was prepared and used as starting material for preparation of 1,2,3,4,10,14b-hexahydro-2-methyl-pyrazino[2,1-a]pyrido[2,3-c][2]benzazepine.

IT 5271-27-2P, 1-Methyl-3-phenylpiperazine
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperazine derivs. as starting materials for preparation of pharmaceutically active compds.)

RN 5271-27-2 CAPLUS

CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 21 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:935558 CAPLUS
DOCUMENT NUMBER: 136:53575
TITLE: Preparation of substituted nitrocatechols as catechol-O-methyltransferase inhibitors
INVENTOR(S): Learmonth, David Alexander; Soares da Silva, Patricio Manuel Vieira Araujo
PATENT ASSIGNEE(S): Portela & CA SA, Port.
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001098251	A1	20011227	WO 2001-GB2777	20010621
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
GB 2363792	A1	20020109	GB 2000-15225	20000621
CA 2351129	AA	20011221	CA 2001-2351129	20010620
US 2003060472	A1	20030327	US 2001-885854	20010620
EP 1167342	A1	20020102	EP 2001-305391	20010621
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRIORITY APPLN. INFO.:			GB 2000-15225 A	20000621
OTHER SOURCE(S):	MARPAT 136:53575			

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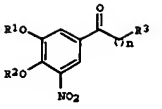
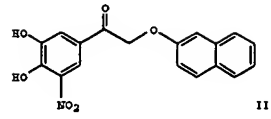


I



II

AB Title compds. I [R1-2 = H, groups hydrolyzable under physiol. pH, alkanoyl, aroyl, alkyl, arylsulfonyl, etc.; n = 1 - 2; R3 = OR4, SR5, NHR6, alkylamino, etc.; R4 = aryl; R5 = (hetero)aryl; R6 = (cyclo)alkyl, heterocycloalkyl, alkylaryl, etc.] were prepared For example, 2-naphthol (3 mol equivalent) was alkylated with 2-chloro-1-(3,4-dihydroxy-5-nitrophenyl)ethanone (DMF, K2CO3, 100°C, 1 h) to give II. Administration of II evaluated at 1 h was shown to inhibit mouse-liver catechol-O-Me transferase (COMT) 17% and brain COMT 83% vs. control. I are useful in the treatment of some central and peripheral nervous system disorders.

IT 383184-92-7, 2-(Chlorophenyl)piperazine hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; preparation of substituted nitrocatechols as catechol-O-methyltransferase inhibitors)

RN 383184-92-7 CAPLUS

CN Piperazine, 2-phenyl-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 22 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:713326 CAPLUS
DOCUMENT NUMBER: 135:272990
TITLE: Preparation of piperazinylcarbonylaminomethylcarbonylpiperidines as melanocortin-4 receptor agonists
INVENTOR(S): Palucki, Brenda L.; Barakat, Khaled J.; Guo, Liangqin; Lai, Yingjie; Nargund, Ravi P.; Park, Min K.; Pollard, Patrick G.; Sebhat, Iyassu K.; Ye, Zhixiong
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 220 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070708	A1	20010927	WO 2001-US8935	20010320
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2403686	AA	20010927	CA 2001-2403686	20010320
US 2002019523	A1	20020214	US 2001-812965	20010320
US 6458790	B2	20021001		
EP 1268449	A1	20030102	EP 2001-922501	20010320
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003528088	T2	20030924	JP 2001-568918	20010320
PRIORITY APPLN. INFO.:			US 2000-191442P P	20000323
			US 2000-242265P P	20001020
			WO 2001-US8935 W	20010320
OTHER SOURCE(S):	MARPAT 135:272990			

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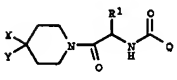


I

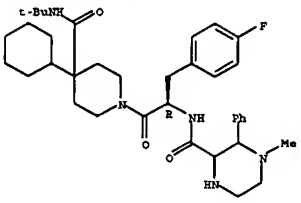
AB Title compds. [I; Q = (substituted) (fused) piperazinyl, morpholinyl, thiomorpholinyl; R1 = H, alkyl, (substituted) cycloalkyl(alkyl), aryl(alkyl), heteroaryl(alkyl), etc.; X = (substituted) alkyl, cycloalkyl(alkyl), aryl(alkyl), heteroaryl(alkyl), heterocycyl(alkyl), cyano(alkyl), aminosulfonyl(alkyl), etc.; Y = H, alkyl, cycloalkyl(alkyl), (substituted) aryl(alkyl), heterocycyl(alkyl), heteroaryl(alkyl)], were prepared as melanocortin-4 receptor (MC-4R) agonists. Thus, capsule formulations containing title compound (II) were prepared Representative I activated MC-4R with IC50<1 μM. I are claimed for the treatment of obesity, diabetes, and sexual dysfunction including erectile dysfunction and female sexual dysfunction.

IT 363188-90-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of piperazinylcarbonylaminomethylcarbonylpiperidines as melanocortin-4 receptor agonists)

RN 363188-90-3 CAPLUS

CN 2-Piperazinecarboxamide, N-[(1R)-2-[4-cyclohexyl-4-[[[(1,1-dimethylethyl)amino]carbonyl]-1-piperidinyl]-1-[(4-fluorophenyl)methyl]-2-oxoethyl]-4-methyl-3-phenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 23 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:328870 CAPLUS
DOCUMENT NUMBER: 134:326545
TITLE: Preparation of 1-methyl-3-phenylpiperazine as intermediate for mirtazapine
INVENTOR(S): Maeda, Chiharu; Iseki, Eiichi; Yoshikawa, Sadanobu
PATENT ASSIGNEE(S): Sumika Fine Chemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001122863	A2	20010508	JP 1999-307698	19991028
PRIORITY APPLN. INFO.:			JP 1999-307698	19991028
OTHER SOURCE(S):	CASREACT 134:326545			

AB Title compound is prepared by condensation of phenylglyoxal with ethylenediamine, reduction of the condensation products, and methylation of 2-phenylpiperazine. Phenylglyoxal was reacted with ethylenediamine in EtOH at 525° for 3 h and reduced with NaBH4 at 20-30° for 21 h to give 81.4% 2-phenylpiperazine, which was methylated with Me2SO4 in the p presence of KOH in PhMe at 15-20° for 1.5 h to give 67.1% 1-methyl-3-phenylpiperazine.

IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of methylphenylpiperazine by condensation of phenylglyoxal with ethylenediamine, reduction, and methylation)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 24 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:265483 CAPLUS
DOCUMENT NUMBER: 134:295839
TITLE: Preparation of 2-phenylpiperazine-1-carboxylic acid benzylamides as tachykinin antagonists
INVENTOR(S): Alvaro, Giuseppe; Di Fabio, Romano; Giovannini, Riccardo; Guercio, Giuseppe; St. Denis, Yves; Ursini, Antonella
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001025219	A2	20010412	WO 2000-EP9722	20001005
WO 2001025219	A3	20011213		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2386515	AA	20010412	CA 2000-2386515	20001005
EP 1218359	A2	20020703	EP 2000-969414	20001005
EP 1218359	B1	20040707		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
TR 200200936	T2	20020722	TR 2002-200200936	20001005
BR 2000014541	A	20020917	BR 2000-14541	20001005
JP 2003511377	T2	20030325	JP 2001-528165	20001005
AU 768780	B2	20040108	AU 2000-79139	20001005
NZ 518144	A	20040430	NZ 2000-518144	20001005
AT 270664	E	20040715	AT 2000-969414	20001005
EP 1454901	A1	20040908	EP 2004-76650	20001005
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY				
EP 1460066	A1	20040922	EP 2004-76632	20001005
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY				
ES 2222927	T3	20050216	ES 2000-969414	20001005
TW 225485	B1	20041221	TW 2000-89121014	20001007
ZA 2002002589	A	20030703	ZA 2002-2589	20020403
NO 2002001637	A	20020606	NO 2002-1637	20020405
US 2003028021	A1	20030206	US 2002-190170	20020703
US 6642240	B2	20031104		
US 2004048862	A1	20040311	US 2003-637825	20030808
US 2004209893	A1	20041021	US 2004-838838	20040504

PRIORITY APPLN. INFO.: GB 1999-23748 A 19991007
EP 2000-969414 A3 20001005
WO 2000-EP9722 W 20001005
US 2002-89964 A1 20020508
US 2002-190170 A1 20020703

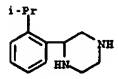
OTHER SOURCE(S): MARPAT 134:295839
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to piperazine derivs. I [wherein: R = halo, C1-4 alkyl; R1 = H, C1-4 alkyl; R2 = H, C1-4 alkyl, C2-6 alkenyl, C3-7 cycloalkyl; or NR1CR2 = 5- to 6-membered heterocyclyl; R3 = CF3, C1-4 alkyl, C1-4 alkoxy, CF3O, or halo; R4 = H, (CH2)qR7 or (CH2)rC(O)(CH2)pR7; R5 = H, C1-4 alkyl or COR6; R6 = H, OH, NH2, NHMe, NMe2, 5-membered heteroaryl containing 1-3 H/O/S or 6-membered heteroaryl containing 1-3 N atoms; R7 = H, CH, or NR8R9 wherein R8 and R9 = H or C1-4 alkyl (un)substituted by OH or by NH2; R10 = H, C1-4 alkyl; or R10 and R2 form C3-7 cycloalkyl; m, n = 0-3; p, r = 0-4; q = 1-4; provided that, when NR1CR2 = 5- to 6-membered heterocyclic, then (i) m = 1 or 2; (ii) when m = 1, R = F; and (iii) when n = 2, both R = F] and pharmaceutically acceptable salts and solvates thereof. The compds. are potent and specific antagonists of tachykinins, including substance P and other neurokinins. Examples include 38 syntheses, 82 prepns. of intermediates, 4 standard formulations, and 2 bioassays. For instance, (+)-(S)-3-(4-fluoro-2-methylphenyl)piperazin-2-one (preparation given) was treated with triphosgene and amidated with 3,5-(F3C)2C6H3CHMeNHMe to give 2 diastereomeric amides. Separation of the (S,S)-diastereomer by flash chromatog. and reduction of the ring oxo group with BH3.THF gave title compound II, isolated as the acetate salt (III). Using the gerbil foot-tapping model for reversal of an NK1 agonist, III had an oral ED50 of 0.04 mg/kg.

IT 334477-62-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of phenylpiperazinecarboxylic acid benzylamides as tachykinin antagonists)

RN 334477-62-2 CAPLUS
CN Piperazine, 2-[2-(1-methylethyl)phenyl]-, hydrochloride (9CI) (CA INDEX NAME)



● x HCl

IT 5368-28-5, 3-Phenylpiperazin-2-one
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation of phenylpiperazinecarboxylic acid benzylamides as tachykinin antagonists)

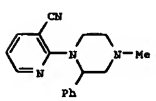
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 25 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:265372 CAPLUS
DOCUMENT NUMBER: 134:280862
TITLE: Process for the preparation of a piperazine derivative
INVENTOR(S): Maeda, Chiharu; Iishi, Eiichi; Wang, Weigi; Imamiya, Yoshiyuki
PATENT ASSIGNEE(S): Sumika Fine Chemicals Co., Ltd., Japan
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001025185	A1	20010412	WO 2000-JP5432	20000814
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2351528	AA	20010405	CA 2000-2351528	20000927
WO 2001023345	A1	20010405	WO 2000-JP6650	20000927
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1136470	A1	20010926	EP 2000-962874	20000927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 751629	B2	20020822	AU 2000-74455	20000927
US 6495685	B1	20021217	US 2000-697140	20001027

PRIORITY APPLN. INFO.: JP 1999-280378 A 19990930
WO 2000-JP5432 A 20000814
WO 2000-JP6650 W 20000927

OTHER SOURCE(S): CASREACT 134:280862
GI



Ph I

AB A process for the preparation of a piperazine derivative, namely 2-(4-methyl-3-phenylpiperazin-1-yl)-3-cyanopyridine (I), comprises reacting 1-methyl-3-phenylpiperazine with 2-chloro-3-cyanopyridine in the presence of a base and an alkali metal halide in an aprotic polar organic solvent. This piperazine derivative I and its oxalate are useful as intermediates for the preparation of mirtazapine. Thus, 11.4 kg N-methylethanolamine was added dropwise to a solution of 20 kg styrene oxide in 38 kg DMF at .apprx.80°, stirred at .apprx.80° for 3 h, and cooled to room temperature to give a DMF solution of N-(2-hydroxyethyl)-N-methyl-2-hydroxy-2-phenylethylamine which was added dropwise to a solution of 45 kg SOCl2 in 67.4 kg toluene at 0-25°, stirred at 45-55° for 2 h, cooled at ≤25°, treated dropwise with 95 kg H2O and then with 30 weight% aqueous KOH at 0-25°, and left to stand for phase separation. The organic and aqueous phase were separated and the aqueous phase was extracted with 55 kg toluene, followed by combining the extract and the organic phase, drying over 4.8 kg MgSO4, treating with 4.8 kg activated clay and filtration, and washing with 19.9 kg PhMe to give a toluene solution of N-(2-chloroethyl)-N-methyl-2-chloro-2-phenylethylamine (II). To the toluene solution was introduced 5.5 kg HCl(g) at 10-35° and stirred at 20-25° for 2 h and the precipitated crystals were filtered and washed with 69 kg toluene to give 30 kg II.HCl. EtOAc (100 mL), 460 mg Bu4NBr, and 20.1 g II.HCl were added to 132 g 28% aqueous NH3 at room temperature and stirred at 40-45° for 3 h, followed by separating the organic layer and extracting the aqueous layer with EtOAc (2 × 30 mL) and the combined organic layer evaporated in vacuo to give 53.8% 1-methyl-3-phenylpiperazine (III) (7.1 g). III 5.51, 2-chloro-3-cyanopyridine 4.47, Et3N 4.1, and KI 5.20 g were added to 11 mL DMF and stirred at 125-130° for 24 h, followed by removing Et3N and DMF under reduced pressure, adding 20 mL H2O and 25 mL EtOAc to the residue, adjusting pH at 8-9 with 10% NaOH, separating the organic phase, and extracting the aqueous layer with EtOAc (3 × 30 mL), washing the combined the organic layer with 5% NaHCO3, drying and concentration, and crystallization from petroleum ether 36% I (3.14 g, 97.1% purity).

IT 5271-27-2P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (methylphenylpiperazinyl)cyanopyridine as intermediate for mirtazapine)

RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

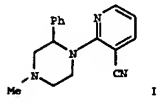
L7 ANSWER 26 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:247305 CAPLUS
DOCUMENT NUMBER: 134:266325
TITLE: Process for the preparation of a piperazine derivative
INVENTOR(S): Maeda, Chiharu; Iishi, Eiichi; Wang, Weigi; Imamiya, Yoshiyuki
PATENT ASSIGNEE(S): Sumika Fine Chemicals Co., Ltd., Japan
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001023385	A1	20010405	WO 2000-JP6650	20000927
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
WO 2001025185	A1	20010412	WO 2000-JP5432	20000814
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2351528	AA	20010405	CA 2000-2351528	20000927
EP 1136470	A1	20010926	EP 2000-962874	20000927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 751629	B2	20020822	AU 2000-74455	20000927

PRIORITY APPLN. INFO.:		
JP 1999-280378	A	19990930
WO 2000-JP5432	W	20000814
WO 2000-JP6650	W	20000927

OTHER SOURCE(S): CASREACT 134:266325
GI

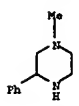


I

AB A process for the preparation of a piperazine derivative represented by formula (I), namely 2-(4-methyl-2-phenylpiperazin-1-yl)-3-cyanopyridine, comprises reacting 1-methyl-3-phenylpiperazine (II) with 2-chloro-3-cyanopyridine (III) in the presence of a base and an alkali metal halide in an aprotic polar organic solvent. This piperazine derivative and its oxalate are useful as intermediates for the preparation of mirtazapine. Thus, styrene oxide underwent addition reaction with N-methylethanolamine in DMF at 80° for 3 h to give a solution of N-(2-hydroxyethyl)-N-methyl-2-hydroxy-2-phenylethylamine which was treated dropwise with a solution of SOCl2 in toluene at 0-25°, stirred at 45-55° for 2 h, cooled to ≤25°, and treated dropwise with water and then with 30 weight% NaOH at 20-25° to give, after workup, a toluene solution of N-(2-chloroethyl)-N-methyl-2-chloro-2-phenylethylamine. The latter solution was treated HCl(g) at 10-35° and stirred at 20-25° for 2 h to give N-(2-chloroethyl)-N-methyl-2-chloro-2-phenylethylamine hydrochloride which was stirred with a mixture of Bu4NBr, aqueous NH3, toluene, and DMF at 40-44° for 2 h, treated with 25 weight% NaOH, and stirred at 45-47° for 2 h to give, after workup, 58.7% II. A mixture of II, III, KI, and Et3N in DMF was stirred at 115-120° for 10 h and then at 135° to distill Et3N, and the stirring was continued at 135-137° for 5 h to give, after workup and salt formation with oxalic acid, 61.9% I.oxalic acid.

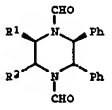
IT 5271-27-2P, Piperazine, 1-methyl-3-phenyl-
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (methylphenylpiperazinyl)cyanopyridine by chlorination of N-(hydroxyethyl)-N-methylhydroxyphenylethylamine and cyclization to methylphenylpiperazine followed by condensation with chlorocyanopyridine)

RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 27 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:76725 CAPLUS
DOCUMENT NUMBER: 134:251986
TITLE: Influence of competing A1,3-strain on the conformational preferences of N1,N4-diformylpiperazines
AUTHOR(S): Jeyaraman, R.; Murugadoss, R.
CORPORATE SOURCE: Department of Chemistry, Bharathidasan University, Tiruchirappalli, 620 024, India
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (2000), 39B(11), 826-835
CODEN: IJSBDB; ISSN: 0376-4699
PUBLISHER: National Institute of Science Communication, CSIR
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:251986
GI



I

AB The conformational preferences of N1,N4-diformylpiperazines 9-12 (I; R1,R2 given: i-Pr,Ph; Me,Ph; Me,H; H,H, resp.) have been studied using NMR spectral techniques and semiempirical MO calcns. Each of the diformylpiperazines 9-11 have been found to exist as an equilibrium mixture of four rotamers resulting from the restricted N-C rotation at the two N-C:O bonds. All the four rotamers (anti-anti, anti-syn, syn-anti, syn-syn) of 9 are found to adopt the twist-boat (B4) conformations. Similarly all the four rotamers of 11 prefer flipped chair (CA) conformations. On the other hand the diformylpiperazine 10 has been found to adopt different ring conformations depending upon the N-CHO rotameric states (B4 for the rotamer A, B3 in the cases of rotamers B and D, and CA for the rotamer C). The A1,3-strain and the resonance energy (arising from the delocalization of the lone pair of electrons on the nitrogen) have been found to be the most important factors in determining the conformational preferences of all the piperazines investigated. The semiempirical MO calcns. supported the conformational preferences and the nature of the conformational equilibrium derived from the NMR results.

IT 81602-00-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(formylation; influence of competing A1,3-strain on the conformational preferences of N1,N4-diformylpiperazines)

RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 28 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:756684 CAPLUS
DOCUMENT NUMBER: 133:321901
TITLE: Novel synthesis of piperazine ring
INVENTOR(S): Dolitzky, Ben-Zion
PATENT ASSIGNEE(S): Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceuticals Usa, Inc.
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXKD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000063185	A1	20001026	WO 2000-US9418	20000407
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2370389	AA	20001026	CA 2000-2370389	20000407
US 6339156	B1	20020115	US 2000-545011	20000407
TR 200103035	T2	20020121	TR 2001-200103035	20000407
EP 1178972	A1	20020213	EP 2000-921933	20000407
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002542234	T2	20021210	JP 2000-612277	20000407
AU 777105	B2	20040930	AU 2000-42190	20000407
US 2002035256	A1	20020321	US 2001-939406	20010824
US 6852855	B2	20050208		
ZA 2001008480	A	20021115	ZA 2001-8480	20011016
HR 2001000759	A1	20030228	HR 2001-759	20011018

PRIORITY APPLN. INFO.:		
US 1999-130048P	P	19990419
US 2000-545011	XX	20000407
WO 2000-US9418	W	20000407

OTHER SOURCE(S): CASREACT 133:321901; MARPAT 133:321901
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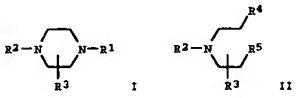
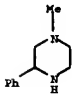


I II

AB A novel process for preparing the compds I [R1 = (un)substituted alkyl, alkoxy, aryl, aryloxy, arylalkoxy; R2 = (un)substituted alkyl, alkoxy, aryl, aryloxy, arylalkoxy, tosyl, formyl, acetyl, amino; R3 = (un)substituted alkyl, alkoxy, aryl, aryloxy, arylalkoxyl], comprising the step of reacting the compound II [R4, R5 = F, Cl, Br, I] with H2NR1, is disclosed. The compds. I are useful as intermediates in the synthesis of the antidepressant mirtazapine and other tetracyclic compds.

IT 5271-27-2P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(novel synthesis of piperazine ring)

RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



L7 ANSWER 29 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:725471 CAPLUS
DOCUMENT NUMBER: 133:281794
TITLE: Preparation of aminopyrimidines as sorbitol dehydrogenase inhibitors
INVENTOR(S): Chu-moyer, Margaret Yuhua; Murry, Jerry Anthony; Mylari, Banavara Lakshman; Zembrowski, William James
PATENT ASSIGNEE(S): Pfizer Products Inc., USA
SOURCE: PCT Int. Appl., 328 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

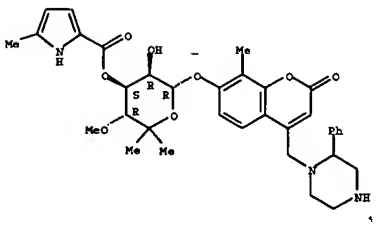
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000059510	A1	20001012	WO 2000-IB296	20000316
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2366858	AA	20001012	CA 2000-2366858	20000316
CA 2484282	AA	20001012	CA 2000-2484282	20000316
AU 2000031845	A5	20001023	AU 2000-31845	20000316
AU 768720	B2	20040108		
NZ 514144	A	20010928	NZ 2000-514144	20000316
BR 2000009433	A	20020115	BR 2000-9433	20000316
TR 200102810	T2	20020121	TR 2001-200102810	20000316
EP 1165275	A1	20020313	EP 2000-909565	20000316
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002541109	T2	20021203	JP 2000-609073	20000316
JP 3581103	B2	20041027		
EE 200100509	A	20021216	EE 2001-509	20000316
US 6414149	B1	20020702	US 2000-538039	20000329
NO 2001004642	A	20011128	NO 2001-4642	20010925
HR 2001000716	A1	20021231	HR 2001-716	20011001
ZA 2001008039	A	20030722	ZA 2001-8039	20011001
BG 106038	A	20020628	BG 2001-106038	20011023
US 2002065179	A1	20030403	US 2002-87869	20020228
US 6602875	B2	20030805		
US 6660740	B1	20031209	US 2003-384424	20030310
US 2004077671	A1	20040422	US 2003-645401	20030821
US 6869943	B2	20050322		
US 2005020578	A1	20050127	US 2004-918812	20040812

PRIORITY APPLN. INFO.:
US 1999-127437P P 19990401
CA 2000-2366858 A3 20000316
WO 2000-IB296 W 20000316
US 2000-538039 A3 20000329
US 2002-87869 A3 20020228
US 2003-384424 A3 20030310
US 2003-645401 A3 20030821

OTHER SOURCE(S): MARPAT 133:281794
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; R1 = CHO, COMe; COCH2Me, etc.; R2 = H, alkyl, alkoxy; R3 = II-IV, etc.; R23 = CONR25R26, SO2NR25R26 (wherein R25 = H, alkyl, arylalkylenyl; R26 = arylalkylenyl); R24 = H, alkyl, alkoxycarbonyl, etc.; R27 = H, alkyl; R28, R29 = H, OH, halo, etc.], sorbitol dehydrogenase inhibitors (no data) which are useful in treating or preventing diabetic complications, particularly diabetic neuropathy, diabetic nephropathy, diabetic microangiopathy, diabetic macroangiopathy and diabetic cardiomyopathy, were prepared and formulated. E.g., a multi-step synthesis of the pyrimidine (R)-V, was given. This invention is also directed to pharmaceutical compns. comprising a combination of the compd.I with an aldose reductase inhibitor and to methods of treating or preventing diabetic complications therewith. This invention is also directed to pharmaceutical compns. comprising a combination of the compound I with an NHE-1 inhibitor and to methods of treating cardiomyopathy and other heart-related problems therewith.



IT 5271-26-1, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(structure-activity relationship in two series of aminoalkyl substituted coumarin inhibitors of gyrase B)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 31 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:369158 CAPLUS
DOCUMENT NUMBER: 131:26044
TITLE: 2-(2,3-Diphenylpiperazin-1-yl)ethylammonium chloride
AUTHOR(S): Majumder, Sarmistha Basu; Mukherjee, Monika; Patra, Goutam Kumar; Datta, Dipankar; Helliwell, Madeleine
CORPORATE SOURCE: Department of Solid State Physics, Indian Association for the Cultivation of Science, Calcutta, 700 032, India
SOURCE: Acta Crystallographica, Section C: Crystal Structure Communications (1999), C55(4), 668-670
CODEN: ACSCEE; ISSN: 0108-2701
PUBLISHER: Munksgaard International Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In (C16H24N3+.Cl-), the hydrochloride of a substituted piperazine, the amino-N atom is protonated. The conformation at the Et-C atoms is gauche, with the two Ph groups approx. orthogonal to the piperazine ring. The crystal structure is stabilized by H bonds involving the chloride ion and the protonated N atom. Crystallog. data are given.
IT 226546-12-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
RN 226546-12-9 CAPLUS
CN 1-Piperazineethanamine, 2,3-diphenyl-, monohydrochloride, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

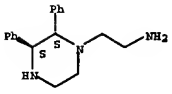
L7 ANSWER 30 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:662329 CAPLUS
DOCUMENT NUMBER: 132:12455
TITLE: Structure-activity relationship in two series of aminoalkyl substituted coumarin inhibitors of gyrase B
AUTHOR(S): Laurin, Patrick; Ferroud, Didier; Schio, Laurent; Klich, Michael; Dupuis-Hamelin, Claudine; Mauvais, Pascale; Lassaigne, Patrice; Bonnefoy, Alain; Musicki, Branislav
CORPORATE SOURCE: Medicinal Chemistry, Hoechst Marion Roussel, Romainville, 93235, Fr.
SOURCE: Bioorganic & Medicinal Chemistry Letters (1999), 9(19), 2875-2880
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two series of amino-substituted coumarins were synthesized and evaluated in vitro as inhibitors of DNA gyrase and as potential antibacterials. Novel novobiocin-like coumarins, 4-[dialkylamino)-methylcoumarins and 4-((2-alkylamino)ethoxy)coumarins, were discovered as gyrase B inhibitors with promising antibacterial activity in vitro.
IT 251354-87-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(structure-activity relationship in two series of aminoalkyl substituted coumarin inhibitors of gyrase B)
RN 251354-87-7 CAPLUS
CN 2H-1-Benzopyran-2-one, 7-[[6-deoxy-5-C-methyl-4-O-methyl-3-O-[(5-methyl-1H-pyrrol-2-yl)carbonyl]- α-L-lyxo-hexopyranosyl]oxy]-8-methyl-4-[(2-phenyl-1-piperazinyl)methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 30 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:662329 CAPLUS
DOCUMENT NUMBER: 132:12455
TITLE: Structure-activity relationship in two series of aminoalkyl substituted coumarin inhibitors of gyrase B
AUTHOR(S): Laurin, Patrick; Ferroud, Didier; Schio, Laurent; Klich, Michael; Dupuis-Hamelin, Claudine; Mauvais, Pascale; Lassaigne, Patrice; Bonnefoy, Alain; Musicki, Branislav
CORPORATE SOURCE: Medicinal Chemistry, Hoechst Marion Roussel, Romainville, 93235, Fr.
SOURCE: Bioorganic & Medicinal Chemistry Letters (1999), 9(19), 2875-2880
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two series of amino-substituted coumarins were synthesized and evaluated in vitro as inhibitors of DNA gyrase and as potential antibacterials. Novel novobiocin-like coumarins, 4-[dialkylamino)-methylcoumarins and 4-((2-alkylamino)ethoxy)coumarins, were discovered as gyrase B inhibitors with promising antibacterial activity in vitro.
IT 251354-87-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(structure-activity relationship in two series of aminoalkyl substituted coumarin inhibitors of gyrase B)
RN 251354-87-7 CAPLUS
CN 2H-1-Benzopyran-2-one, 7-[[6-deoxy-5-C-methyl-4-O-methyl-3-O-[(5-methyl-1H-pyrrol-2-yl)carbonyl]- α-L-lyxo-hexopyranosyl]oxy]-8-methyl-4-[(2-phenyl-1-piperazinyl)methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

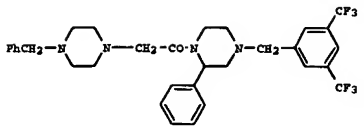
L7 ANSWER 32 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:231210 CAPLUS
DOCUMENT NUMBER: 130:252385
TITLE: Preparation of piperazine derivatives as neurokinin antagonists
INVENTOR(S): Shue, Ho-Jane; Shih, Neng-Yang; Blythin, David J.; Chen, Xiao; Piwinski, John J.; McCormick, Kevin D.
PATENT ASSIGNEE(S): Schering Corporation, USA
SOURCE: U.S., 47 pp., Cont.-in-part of U.S. 5,795,894.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5892039	A	19990406	US 1996-706016	19960830
WO 9634864	A1	19961107	WO 1996-US5660	19960501
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5795894	A	19980818	US 1996-663880	19960614
CA 2264005	AA	19980305	CA 1997-2264005	19970828
WO 9808826	A1	19980305	WO 1997-US14709	19970828
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9740800	A1	19980319	AU 1997-40800	19970828
EP 927170	A1	19990707	EP 1997-938490	19970828
EP 927170	B1	20031008		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, LT, LV, FI, RO				
CN 1234026	A	19991103	CN 1997-199121	19970828
CN 1113059	B	20030702		
JP 2000516956	T2	20001219	JP 1998-511732	19970828
AT 251614	E	20031015	AT 1997-938490	19970828
ES 2208947	T3	20040616	ES 1997-938490	19970828
HK 1018265	A1	20040528	HK 1999-103192	19990726

PRIORITY APPLN. INFO.:
WO 1996-US5660 W 19960501

	US 1996-663880	A2	19960614
	US 1995-432739	A	19950502
	US 1995-3084P	P	19950831
	US 1996-706016	A	19960830
	WO 1997-US14709	W	19970828

OTHER SOURCE(S): MARPAT 130:252385
GI



I

AB The title compds. were prepared and the NK1 and NK2 antagonist activity determined E.g., piperazine derivative I was prepared These compds. are useful in the treatment of chronic airway diseases such as asthma.

IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperazine derivs. as NK1 and NK2 antagonists)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

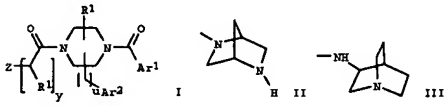
L7 ANSWER 33 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:564199 CAPLUS
DOCUMENT NUMBER: 129:189341
TITLE: Preparation of piperazines as neurokinin antagonists
INVENTOR(S): Shue, Ho-jane; Shih, Neng-yang; Blythin, David J.; Chen, Xiao; Tom, Wing C.; Piwinski, John J.; McCormick, Kevin D.
PATENT ASSIGNEE(S): Schering Corp., USA
SOURCE: U.S., 92 pp., Cont.-in-part of U. S. 5,719,156.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5795894	A	19980818	US 1996-663880	19960614
US 5719156	A	19980217	US 1995-432739	19950502
US 5798359	A	19980825	US 1995-451113	19950525
CN 1189829	A	19980805	CN 1996-195171	19960501
CN 1111528	B	20030618		
CA 2228370	AA	19970306	CA 1996-2228370	19960829
CA 2228370	C	20021001		
WO 9708166	A1	19970306	WO 1996-IB1018	19960829
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9669979	A1	19970319	AU 1996-69979	19960829
AU 708834	B2	19990812		
EP 850236	A1	19980701	EP 1996-931188	19960829
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, LT, LV, FI				
JP 10511105	T2	19981027	JP 1997-510069	19960829
JP 3447745	B2	20030916		
CN 1200120	A	19981125	CN 1996-197720	19960829
CN 1111529	B	20030618		
US 5869488	A	19990209	US 1996-703154	19960829
BR 9610277	A	19990706	BR 1996-10277	19960829
JP 2000344766	A2	20001212	JP 2000-153870	19960829
JP 3315970	B2	20020819		
IL 123112	A1	20010430	IL 1996-123112	19960829
AT 202776	E	20010715	AT 1996-931188	19960829
ES 2158345	T3	20010901	ES 1996-931188	19960829
US 5892039	A	19990406	US 1996-706016	19960830
NO 9800848	A	19980430	NO 1998-848	19980227
US 5981520	A	19991109	US 1998-99221	19980617
GR 3036675	T3	20011231	GR 2001-401532	20010920

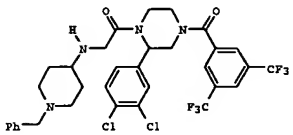
PRIORITY APPLN. INFO.:

US 1995-432739	A2	19950502
US 1995-3084P	P	19950831
WO 1996-US5660	W	19960501
US 1996-663880	A	19960614
JP 1997-510069	A3	19960829
WO 1996-IB1018	W	19960829

OTHER SOURCE(S): MARPAT 129:189341
GI



I II III



IV

AB The title compds. [I; u = 0-2; yr = 1-3 (with the proviso that no more than one R1 is other than H); R1 = H, C1-6 alkyl, hydroxy(C1-6 alkyl), etc.; Ar1 = (un)substituted pyridyl, Ph, naphthyl; Ar2 = (un)substituted Ph; Z = (un)substituted II, III, etc.) and their salts, neurokinin antagonists useful in the treatment of chronic airway diseases such as asthma and bronchospasm, were prepared Thus, reaction of [3,5-bis(trifluoromethyl)benzoyl]-3-(3,4-dichlorophenyl)piperazine with BrCH2COCl in the presence of (iPr)2NEt in CH2Cl2 followed by the addition of 4-amino-1-benzylpiperidine afforded 62% the title compound IV which showed Ki of 4.9 nM and 11.4 nM for NK1 and NK2 binding, resp.

IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperazines as neurokinin antagonists)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

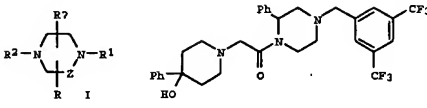
L7 ANSWER 34 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:163574 CAPLUS
DOCUMENT NUMBER: 128:230391
TITLE: Preparation of N-(piperidinoacetyl)piperazines and analogs as neurokinin antagonists
INVENTOR(S): Shue, Ho-Jane; Shih, Neng-Yang; Blythin, David J.; Chen, Xiao; Piwinski, John J.; McCormick, Kevin D.
PATENT ASSIGNEE(S): Schering Corporation, USA
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9808826	A1	19980305	WO 1997-US14709	19970828
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5892039	A	19990406	US 1996-706016	19960830
CA 2264005	AA	19980305	CA 1997-2264005	19970828
AU 9740800	A1	19980319	AU 1997-40800	19970828
EP 927170	A1	19990707	EP 1997-938490	19970828
EP 927170	B1	20031008		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, LT, LV, FI, RO				
JP 2000516956	T2	20001219	JP 1998-511732	19970828
AT 251614	E	20031015	AT 1997-938490	19970828
HK 1018265	A1	20040528	HK 1999-103192	19990726

PRIORITY APPLN. INFO.:

US 1996-706016	A	19960830
WO 1996-US5660	W	19960501
US 1996-663880	A2	19960614
WO 1997-US14709	W	19970828

OTHER SOURCE(S): MARPAT 128:230391
GI



I II

AB Title compds. [I; R = (CH2)uAr2; R1 = C(:X)[CHRc']1Ar1; R2 = [C(:X)]m(CHRc)yR3; R3 = cycloalkylamino, azacycloalkyl, etc.; Ar1,Ar2 = (un)substituted (hetero)aryl; Rc = H or (un)substituted alkyl; Rc' = H, (hydroxy)alkyl, alkoxyalkyl, etc.; X = O, S, H2, (alkyl)imino, etc.; Z = bond, CH2, CH2CH2; 1,u = 0-2; m = y = 1; m = 2 and y = 0] were prepared Thus, chloropyrazine was arylated by PhMgBr and the reduced product N-alkylated by 3,5-(F3C)2C6H3CH2Br to give PhZ1CH2C6H3(CF3)2-3,5 (Z1 = piperazine-2,4-diyl) which was N-acylated by BrCH2COBr and the product aminated by 4-hydroxy-4-phenylpiperidine to give title compound II. Data for biol. activity of I were given.

IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of N-(piperidinoacetyl)piperazines and analogs as neurokinin antagonists)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 35 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:126258 CAPLUS
DOCUMENT NUMBER: 128:192669
TITLE: Palladium catalyzed indolization of 2-halo- or 2-(trifluoromethylsulfonyloxy)aniline and acyl silane derivatives
INVENTOR(S): Chen, Cheng-Yi; Larsen, Robert D.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA; Chen, Cheng-Yi; Larsen, Robert D.
SOURCE: PCT Int. Appl., 90 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9806725	A1	19980219	WO 1997-US13799		19970808
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9740534	A1	19980306	AU 1997-40534		19970808
EP 925302	A1	19990630	EP 1997-938139		19970808
EP 925302	B1	20021120			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI, RO					
BR 9711131	A	19990817	BR 1997-11131		19970808
CN 1228094	A	19990908	CN 1997-197284		19970808
CN 1084751	B	20020515			
AT 228137	E	20021215	AT 1997-938139		19970808
ES 2185983	T3	20030501	ES 1997-938139		19970808
TW 429259	B	20010411	TW 1997-86111480		19970811
PRIORITY APPLN. INFO.:			US 1996-23860P	P	19960813
			GB 1996-19064	A	19960912
			US 1996-30155P	P	19961031
			WO 1997-US13799	W	19970808

OTHER SOURCE(S): CASREACT 128:192669; MARPAT 128:192669
GI

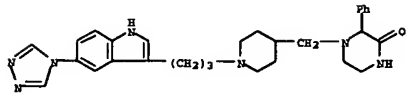
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The authors have found that 2-unsubstituted indoles of structural formula (I; R = H; R1-R4, R8 = substituents that will not interfere with the reaction conditions) can be cost-effectively synthesized in high yield by the palladium-catalyzed coupling/ring closure of a 2-halo or 2-trifluoromethylsulfonyloxy aniline (II; Y = Br, iodo, CF3SO2O; R1-R4, R8 = same as above) and an acyl silane derivative of formula R8CH2COSiR5R6R7 (R5-R7 = C1-6 alkyl, C1-6 alkoxy, Ph; R8 = same as above), followed by deprotection of the silyl protecting groups of the resulting silylindole I (R = SiR5R6R7; R1-R4 = same as above). The process of the present invention is particularly useful to form indoles containing acid-labile substituents such as triazole, acetyl, ketal, cyano, and carbamate, or indoles having a good leaving group in the benzyl position. The advantage of the present process is that it does not require the use of triphenylphosphine or tetrabutylammonium chloride or lithium chloride. When applied to 5-triazolyl substituted indoles, the present process also eliminates the tendency of triazolyl polymerization in the Fischer indole synthesis. Still further, the present invention is also directed to the novel intermediates of structural formulas (III and IV; Y, R1-R8 = same as above). This process is particularly useful in the preparation of 5-heterocyclic-substituted tryptamines such as 5-(1,2,4-triazol-1-yl)tryptamine which are therapeutically active as antimigraine agents (no data). Thus, 2-iodoaniline, MeCOSiMe3, DABCO, and Pd(OAc)2 in DMF was degassed via N/vacuum and heated at 105° for 36 h to give 2-(trimethylsilyl)indole, which in MeOH was treated with 2.5 N aqueous HCl at room temperature for 2 h to give indole.

IT 190956-20-8P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(palladium catalyzed indolization by cyclocondensation of halo- or (trifluoromethylsulfonyloxy)aniline with acyl silane derivs.)

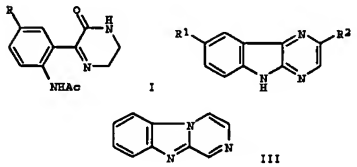
RN 190956-20-8 CAPLUS

CN Piperazinone, 3-phenyl-4-[[1-[3-[5-(4H-1,2,4-triazol-4-yl)-1H-indol-3-yl]propyl]-4-piperidinyl]methyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

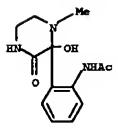
L7 ANSWER 36 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:493706 CAPLUS
DOCUMENT NUMBER: 127:190705
TITLE: Synthesis of 5H-pyrazino[2,3-b]indoles from indole-2,3-dione derivatives
AUTHOR(S): Bergman, Jan; Vallberg, Hans
CORPORATE SOURCE: Department of Organic Chemistry, Royal Institute of Technology, Stockholm, S-100 44, Swed.
SOURCE: Acta Chemica Scandinavica (1997), 51(6/7), 742-752
CODEN: ACHSE7; ISSN: 0904-213X
PUBLISHER: Munksgaard
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB Reaction of N-acetylindol-2,3-diones with ethylenediamines gave the dihydropyrazinones I (R = H, Br, OMe, NO2), which could, after dehydrogenation and deacetylation, be transformed to the corresponding 5H-pyrazino[2,3-b]indoles II (R1 = H, R2 = H, Me, Et; R1 = Br, R2 = H). N,N-Dimethylaminoethylation of the anion of II occurred selectively in the 5-position. Thermolysis of 1-pyrazinylbenzotriazole gave pyrazino[1,2-a]benzimidazole III and no 5H-pyrazino[2,3-b]indole.

IT 193959-59-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of pyrazinoindoles from indoledione derivs.)

RN 193959-59-0 CAPLUS
CN Acetamide, N-[2-(2-hydroxy-1-methyl-3-oxo-2-piperazinyl]phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 37 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:425267 CAPLUS
DOCUMENT NUMBER: 127:50664
TITLE: Preparation of heterocyclyl-substituted azetidines, pyrrolidines and piperidines as selective agonists of 5-HT1-like receptors
INVENTOR(S): Castro Pineiro, Jose Luis
PATENT ASSIGNEE(S): Merck Sharp & Dohme Limited, UK
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9716445	A1	19970509	WO 1996-GB2625		19961028
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG					
AU 9673191	A1	19970522	AU 1996-73191		19961028
US 6051572	A	20000418	US 1998-58066		19980428
PRIORITY APPLN. INFO.:			GB 1995-22372	A	19951101
			WO 1996-GB2625	W	19961028

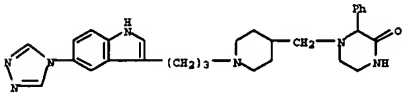
OTHER SOURCE(S): MARPAT 127:50664
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; Z = 5-membered heteroarom. ring; E = a chemical bond, C1-4 alkylene; Q = (un)substituted C1-4 alkylene; T = N, CH; U = N, CH, C(C1-6 alkyl); V = O, S, NH, N(C1-6 alkyl); M = residue of an azetidine, pyrrolidine or piperidine ring; R = WR1 (wherein W = a chemical bond, C1-4 alkylene; R1 = II, III, IV, V; Y = O, NH, N(C1-6 alkyl); R4 = H, halo, Cn, etc.); R5 = H, C1-6 alkyl], being potent agonists of the human 5-HT1Dα receptor subtype while possessing at least a 10-fold selective affinity for the 5-HT1D α receptor subtype relative to the 5-HT1Dβ subtype and therefore useful in the treatment and/or prevention of clin. conditions, in particular migraine and associated disorders, while eliciting fewer side-effects, notably adverse cardiovascular events, than those associated with non-subtype-selective 5-HT1D receptor agonists, were prepared Thus, treatment of a solution of 1-{3-[5-(1,2,4-triazol-4-yl)-1H-indol-3-yl]propyl}-4-(hydroxymethyl)piperidine in a mixture of DMSO and Et3N with solid sulfur trioxide pyridine complex followed by reaction of the intermediate with 3-oxo-2-phenylpiperazine in the presence of AcOH and NaBH3CN afforded 25% VI which showed IC50 of < 100 nM against binding to the 5-HT1D α receptor subtype. Compds. I are effective in the treatment of migraine at 0.05-5 mg/kg/day.

IT 190956-20-8P 190956-21-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of heterocyclyl-substituted azetidines, pyrrolidines and piperidines as selective agonists of 5-HT1-like receptors)

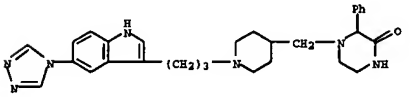
RN 190956-20-8 CAPLUS
CN Piperazinone, 3-phenyl-4-[[1-[3-[5-(4H-1,2,4-triazol-4-yl)-1H-indol-3-yl]propyl]-4-piperidinyl]methyl]- (9CI) (CA INDEX NAME)



RN 190956-21-9 CAPLUS
CN Piperazinone, 3-phenyl-4-[[1-[3-[5-(4H-1,2,4-triazol-4-yl)-1H-indol-3-yl]propyl]-4-piperidinyl]methyl]-, ethanedioate (5:9) (9CI) (CA INDEX NAME)

CM 1

CRN 190956-20-8
CMF C29 H35 N7 O



CM 2

CRN 144-62-7
CMF C2 H2 O4

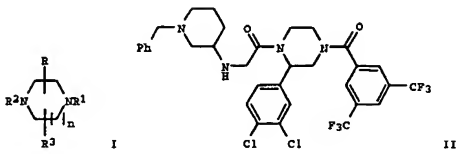
IT 5368-28-5, 3-Oxo-2-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of heterocyclyl-substituted azetidines, pyrrolidines and piperidines as selective agonists of 5-HT1-like receptors)

RN 5368-20-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 38 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:38766 CAPLUS
DOCUMENT NUMBER: 126:59974
TITLE: Preparation of 1-benzoyl-2-[(4-piperidinylamino)acetyl]piperazines and analogs as neurokinin antagonists
INVENTOR(S): Shue, Ho-Jane; Shih, Neng-Yang; Blythin, David J.; Chen, Xiao; Tom, Wing C.; Piwinski, John J.; Mccormick, Kevin D.
PATENT ASSIGNEE(S): Schering Corporation, USA
SOURCE: PCT Int. Appl., 137 pp.
CODEN: PIXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9634864	A1	19961107	WO 1996-US5660	19960501
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5719156	A	19980217	US 1995-432739	19950502
CA 2218887	AA	19961107	CA 1996-2218887	19960501
AU 9657141	A1	19961121	AU 1996-57141	19960501
AU 705683	B2	19990527		
EP 823906	A1	19980218	EP 1996-915342	19960501
EP 823906	B1	20030709		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
BR 9608245	A	19990504	BR 1996-8245	19960501
JP 11504921	T2	19990511	JP 1996-533355	19960501
AT 244712	E	20030715	AT 1996-915342	19960501
ES 2197238	T3	20040101	ES 1996-915342	19960501
CA 2228370	AA	19970306	CA 1996-2228370	19960829
CA 2228370	C	20021001		
WO 9708166	A1	19970306	WO 1996-IB1018	19960829
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9669979	A1	19970319	AU 1996-69979	19960829
AU 708834	B2	19990812		
EP 850236	A1	19980701	EP 1996-931188	19960829
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, LT, LV, FI				
JP 10511105	T2	19981027	JP 1997-510069	19960829
JP 3447745	B2	20030916		
CN 1200120	A	19981125	CN 1996-197720	19960829
CN 1111529	B	20030618		
ER 9610277	A	19990706	ER 1996-10277	19960829
JP 2000344766	A2	20001212	JP 2000-153870	19960829
JP 3315970	B2	20020819		
IL 123112	A1	20010430	IL 1996-123112	19960829
AT 202776	E	20010715	AT 1996-931188	19960829
ES 2158345	T3	20010901	ES 1996-931188	19960829
US 5892039	A	19990406	US 1996-706016	19960830
ZA 9701467	A	19970820	ZA 1997-1467	19970220
NO 9705028	A	19971230	NO 1997-5028	19971031
NO 315852	B1	20031103		
NO 9800848	A	19980420	NO 1998-848	19980227
HK 1005092	A1	20031128	HK 1998-104240	19980516
US 5981520	A	19991109	US 1998-99221	19980617
GR 3036675	T3	20011231	GR 2001-401532	20010920
PRIORITY APPLN. INFO.:			US 1995-432739 A	19950502
			US 1995-3084P P	19950831
			WO 1996-US5660 A	19960501
			US 1996-663880 A	19960614
			JP 1997-510069 A3	19960829
			WO 1996-IB1018 W	19960829

OTHER SOURCE(S): MARPAT 126:59974
GI

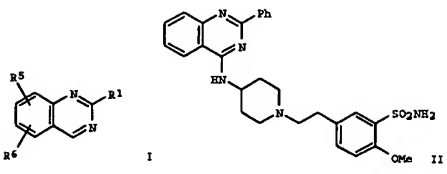


AB Title compds. [I; R = H, (hydroxy)alkyl, alkoxyalkyl, aminoalkyl, etc.; R1 = C(:X)(CHR4)1R5; R2 = [C(:X)]m(CHR)yR6; R3 = (CH2)uR7; R4 = (hydroxy)alkyl, alkoxyalkyl, phenylalkyl, etc.; R5,R7 = (hetero)aryl; R6 = substituted NH2, N-attached heterocyclyl, etc.; X = O, S, (alkyl)imino; n,u = 0-2; m = 1 and y = 1-3 or m = 2 and y = 0] were prepared Thus, 2-(3,4-dichlorophenyl)piperazine (preparation given) was amidated by 3,5-(F3C)2C6H3COCl and the product successively condensed with BrCH2COBr and 4-amino-1-benzylpiperidine to give title compound II. Data for in vitro biol. activity of I were given.
IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of 1-benzoyl-2-[(4-piperidinylamino)acetyl]piperazines and analogs as neurokinin antagonists)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 39 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:567069 CAPLUS
DOCUMENT NUMBER: 125:221856
TITLE: Preparation of quinazoline derivatives as adrenergic α1C receptor antagonists
INVENTOR(S): Andrews, Robert Carl; Brown, Peter Jonathan; Deaton, David Norman; Drewry, David Harold; Foley, Michael Andrew; Garrison, Deanna T.; Marron, Brian Edward; Smalley, Terrence L.; Berman, Judd M.; Noble, Stewart Alywyn
PATENT ASSIGNEE(S): Glaxo Inc, USA
SOURCE: Brit. UK Pat. Appl., 190 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

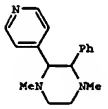
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2295387	A1	19960529	GB 1994-23635	19941123
PRIORITY APPLN. INFO.:			GB 1994-23635	19941123

OTHER SOURCE(S): MARPAT 125:221856
GI



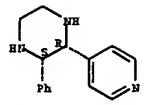
AB Title compds. [I; R = Z1Z2 = R4; R1 = H, halo, alkyl, alkoxy, etc.; R4 = H, (di)(alkyl)amino, phenyl(oxy), etc.; R5,R6 = H, OH, halo, alkyl, alkoxy; Z1 = NH, 2-(piperazine-1,4-diyl)ethylimino, iminopyridine-5,2-diylimino, etc.; Z2 = bond, (un)substituted alkylene] were prepared as adrenergic α1C receptor antagonists (no data). Thus, 4-chloro-2-phenylquinazoline was aminated by 4-amino-1-benzylpiperidine and the deprotected product N-alkylated by 5-(2-chloroethyl)-2-methoxybenzenesulfonamide (preparation given) to give title compound II.
IT 5271-26-1, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of quinazoline derivs. as adrenergic α1C receptor antagonists)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 40 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:145361 CAPLUS
DOCUMENT NUMBER: 124:276756
TITLE: Photoinduced Charge Separation Promoted by Ring Opening of a Piperazine Radical Cation
AUTHOR(S): Lucia, Lucian A.; Whitten, David G.; Schanze, Kirk S.
CORPORATE SOURCE: Department of Chemistry, University of Florida, Gainesville, FL, 32611, USA
SOURCE: Journal of the American Chemical Society (1996), 118(12), 3057-8
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



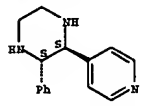
AB The photochem. and photophysics of (bpy)ReI(CO)3(cis-pip)+ and (bpy)ReI(CO)3(trans-pip)+ (c-1 and t-1, resp.) were examined (bpy = 2,2'-bipyridine; cis- and trans-pip = cis- and trans-I, resp.). Steady state irradiation of c-1 produces t-1 with high quantum efficiency. The c-1 → t-1 photoisomerization proceeds via (1) a Re → bpy metal-to-ligand charge-transfer excited state (MLCT), (2) a charge-separated state where bpy is reduced and piperazine is oxidized, and (3) a charge-separated state where the piperazine cation radical exists as a ring-opened distonic radical cation formed by fragmentation of the 2,3-ML bond. Nanosecond laser flash photolysis of c-1 reveals two absorbing transients: the first is assigned to the MLCT state while the second is attributed to the second charge-separated state. The decay kinetics of the latter are considerably slower than typically observed for charge-separated states in metal complex dyads. This unusual feature is attributed to the fact that this charge-separated state cannot decay directly to t-1 by charge recombination, but rather decays via a pathway involving a high-energy diradical intermediate.
IT 175405-83-1P 175405-85-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of dimethyl(phenyl)pyridylpiperazine)
RN 175405-83-1 CAPLUS
CN Piperazine, 2-phenyl-3-(4-pyridinyl)-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



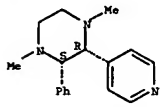
RN 175405-85-3 CAPLUS
CN Piperazine, 2-phenyl-3-(4-pyridinyl)-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



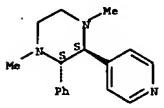
IT 175405-84-2P 175405-86-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of rhenium carbonyl bipyridine dimethyl(phenyl)pyridylpiperazine complex)
RN 175405-84-2 CAPLUS
CN Piperazine, 1,4-dimethyl-2-phenyl-3-(4-pyridinyl)-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 175405-86-4 CAPLUS
CN Piperazine, 1,4-dimethyl-2-phenyl-3-(4-pyridinyl)-, trans- (9CI) (CA INDEX NAME)

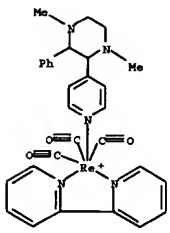
Relative stereochemistry.



IT 175405-81-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and photoinduced charge separation promoted by ring opening of a
piperazine radical cation)
RN 175405-81-9 CAPLUS
CN Rhenium(1+), (2,2'-bipyridine-N,N')tricarbonyl[1,4-dimethyl-2-phenyl-3-(4-pyridinyl)piperazine-N3]-, [OC-6-33-(cis)]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

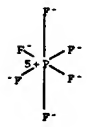
CM 1

CRN 175405-80-8
CMF C30 H29 N5 O3 Re
CCI CCS



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS

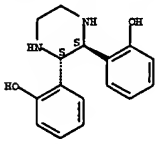


L7 ANSWER 41 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:629823 CAPLUS
DOCUMENT NUMBER: 123:313927
TITLE: Synthesis of Nitrogen-Containing Macrocycles with Reductive Intramolecular Coupling of Aromatic Diimines
AUTHOR(S): Kise, Naoki; Oike, Hideaki; Okazaki, Eiichi; Yoshimoto, Masami; Shono, Tatsuya
CORPORATE SOURCE: Graduate School of Engineering, Kyoto University, Sakyo, 606-01, Japan
SOURCE: Journal of Organic Chemistry (1995), 60(13), 3980-92
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 123:313927
AB Reductive intramol. coupling of aromatic diimines is an effective method for the synthesis of a variety of nitrogen-containing macrocycles. Thus, 1,4-diazacrown ethers were synthesized by intramol. coupling of bis(imino ethers) promoted by electroredn. or chemical reduction with zinc powder in the presence of methanesulfonic acid. In spite of the formation of macrocycles, the yields of 1,4-diazacrown ethers were relatively high. This was explained by the formation of proton-bridged intermediates in which intramol. hydrogen bonds are formed between hydrogen and oxygen atoms of diiminium salts. Method B was more effective in the formation of 1,4-diaza-12-crown-4 derivs. 3 (n = 1) due to the template effect of Zn2+. Optically active macrocyclic bis(lactones) were synthesized stereoselectively by reductive intramol. coupling of bis(imino esters) with zinc powder. The high stereoselectivity is explained by considering a proton-bridged intermediate. The resultant compds. 4 were transformed to optically active 1,2-diarylethylenediamines 7. Various sizes of macrocyclic bis(lactams) were synthesized by reductive intramol. coupling of bis(imino amides) with zinc powder. Reduction of 5 gave the corresponding macrocyclic polyamines 6.
IT 81602-00-8P 169395-32-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of macrocyclic compds. via reductive coupling of aromatic diimines)
RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 169395-32-8 CAPLUS
CN Phenol, 2,2'-(2,3-piperazinediyl)bis-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L7 ANSWER 42 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:468473 CAPLUS
DOCUMENT NUMBER: 122:240435
TITLE: Preparation of aminobutanoic acid compounds having metalloprotease inhibiting properties
INVENTOR(S): McElroy, Andrew B.; Brown, Peter J.; Drewry, David H.; Salovich, James M.; Schoenen, Frank J.
PATENT ASSIGNEE(S): Glaxo, Inc., USA
SOURCE: U.S., 33 pp. Cont.-in-part of U.S. Ser. No. 905,934, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5326760	A	19940705	US 1993-31439	19930315
WO 9400119	A1	19940106	WO 1993-US6212	19930628
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9346578	A1	19940124	AU 1993-46578	19930628
PRIORITY APPLN. INFO.:			US 1992-905934	B2 19920629
			US 1993-31439	A 19930315
			WO 1993-US6212	A 19930628

OTHER SOURCE(S): MARPAT 122:240435
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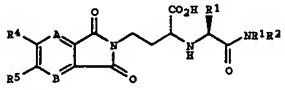


I

AB Title compds. [I; A, B = N, CR; R = H, halo, alkyl, alkoxy; R1 = alkyl, alkylthioalkyl; R2 = H, alkyl, hydroxyalkyl; R3 = alkyl, alkoxy, alkylamino, (substituted) aryl, arylsulfonyl, etc.; NR2R3 = (substituted) heterocyclyl; R4 = H, OH, alkyl, alkoxy, halo; R5 = H, alkyl, amino, aminoalkyl, acetylamino, (substituted) aryl, arylsulfonylamino, NO2, alkylsulfonylamino, OH, alkoxy, halo, morpholino, piperazinyl, piperidinyl, etc.; R4R5 = atoms to form a (substituted) (aromatic) (heterocyclic) ring], were prepared as metalloprotease inhibitors (no data). Thus, N-[(R)-1-[(1,1-dimethylethoxy)carbonyl]-3-(1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-yl)propyl]leucine (preparation given), 2-morpholin-4-ylethylamine, diisopropylethylamine, hydroxybenzotriazole, and benzotriazolyltetramethyluronium hexafluorophosphate were stirred in DMF at 0-20° to give 4-(1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-yl)-2(R)-[[3-methyl-1-(S)-[[(2-morpholin-4-ylethyl)amino]carbonyl]butyl]amino]butanoic acid 1,1-dimethylethyl ester. This was kept in CF3CO2H/H2O to give 4-(1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-yl)-2(R)-[[3-methyl-1-(S)-[[(2-morpholin-4-ylethyl)amino]carbonyl]butyl]amino]butanoic acid.

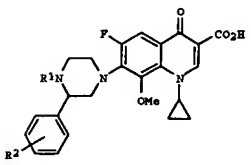
IT 5368-28-5, 3-Oxo-2-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of aminobutanoate derivative metalloprotease inhibitor)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 43 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:374736 CAPLUS
DOCUMENT NUMBER: 122:160683
TITLE: Preparation of piperazinylquinolinecarboxylic acids as bactericides
INVENTOR(S): Ito, Yasuo; Kato, Hideo; Yasuda, Shingo; Kato, Noryuki; Yoshida, Toshihiko; Suzuki, Tomio; Yamamoto, Yoichi
PATENT ASSIGNEE(S): Kokuriku Pharmaceutical, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXYAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06271560	A2	19940927	JP 1993-85123	19930322
PRIORITY APPLN. INFO.:			JP 1993-85123	19930322

OTHER SOURCE(S): MARPAT 122:160683
GI



I

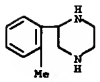
AB The title compds. I [R1 = H, alkyl, etc.; R2 = H, alkoxy, etc.], useful as bactericides (no data), are prepared I [R1 = R2 = H] was prepared in a 2-step process.

IT 5271-26-1, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of piperazinylquinolinecarboxylic acids as bactericides)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

IT 161115-88-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperazinylquinolinecarboxylic acids as bactericides)

RN 161115-88-4 CAPLUS
CN Piperazine, 2-(2-methylphenyl)-, dihydrochloride (9CI) (CA INDEX NAME)

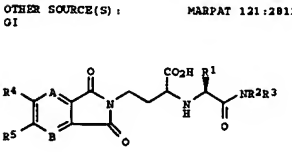


●2 HCl

L7 ANSWER 44 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:681234 CAPLUS
DOCUMENT NUMBER: 121:281234
TITLE: Aminobutanoic acid compounds having metalloprotease inhibiting properties
INVENTOR(S): Mcelroy, Andrew B.; Brown, Peter J.; Drewry, David H.; Salovich, James M.; Schoenen, Frank J.
PATENT ASSIGNEE(S): Glaxo Inc., USA
SOURCE: PCT Int. Appl., 114 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9400119	A1	19940106	WO 1993-US6212	19930628
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5326760	A	19940705	US 1993-31439	19930315
AU 9346578	A1	19940124	AU 1993-46578	19930628
PRIORITY APPLN. INFO.:			US 1992-905934 A	19920629
			US 1993-31439 A	19930315
			WO 1993-US6212 A	19930628

OTHER SOURCE(S): MARPAT 121:281234
GI



I

AB Aminobutanoic acids of formula I (R1-R5 = substituents), novel intermediates, a pharmaceutical composition for treating inflammatory diseases, demyelinating diseases, and tumor metastasis, methods for such treatment and processes for preparing compds. of formula I. I are matrix metalloprotease inhibitors and as such are useful in the prevention of conditions which involve tissue breakdown, such as rheumatoid arthritis.

IT 5368-28-5, 3-Oxo-2-phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for α-(amino)-ω-phthalimidobutanoic acid matrix metalloprotease inhibitor)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 45 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:579620 CAPLUS
DOCUMENT NUMBER: 121:179620
TITLE: quinolone and naphthyridonecarboxylic acids
INVENTOR(S): Bartel, Stephan; Kleefeld, Gerd; Schulze, Thomas; Paessens, Arnold; Neumann, Rainer; Reefschlaeger, Juergen; Streissle, Gert
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Ger. Offen., 76 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4303657	A1	19940811	DE 1993-4303657	19930209
AU 9453148	A1	19940811	AU 1994-53148	19940112
AU 670470	B2	19960718		
EP 612731	A1	19940831	EP 1994-101223	19940127
EP 612731	B1	19970820		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 157088	E	19970915	AT 1994-101223	19940127
ES 2105362	T3	19971016	ES 1994-101223	19940127
CA 2115021	AA	19940810	CA 1994-2115021	19940204
JP 06271570	A2	19940927	JP 1994-32000	19940204
ZA 9400841	A	19940905	ZA 1994-841	19940208
HU 70044	A2	19950928	HU 1994-352	19940208
PRIORITY APPLN. INFO.:			DE 1993-4303657 A	19930209

OTHER SOURCE(S): MARPAT 121:179620
GI

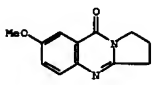
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

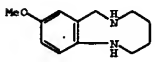
AB The title compds. I (R1 = H, hydroxy, halo, etc.; R2 = H, nitro, halo; R3 = piperazinyl; R4 = aminoalkyl; R5 = H, halo, alkyl, etc.; R6 = hydroxy, benzyloxy, alkoxy, morpholino, etc.; D = H, amino, alkyl, etc.; A = methine, nitrogen) were disclosed. I are useful as virucides. An example compound, the [(3-methoxyphenyl)piperazinyl]quinolinecarboxylic acid II, was prepared. II inhibited HIV in vitro in infected cells (IC50 = 3 μM).

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for (piperazinyl)quinolinecarboxylate)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 46 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:269233 CAPLUS
DOCUMENT NUMBER: 120:269233
TITLE: Sodium borohydride-boron trifluoride etherate, a convenient and efficient reagent for the reduction of amides
AUTHOR(S): Sengupta, Sreela; Sahu, Devi P.; Chatterjee, Sunil K.
CORPORATE SOURCE: Div. Chem. Technol., Central Drug Res. Inst., Lucknow, 226 001, India
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1994), 33B(3), 285-7
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:269233
GI


I


II

AB Sodium borohydride-boron trifluoride etherate has been employed as a reducing agent for the conversion of amides into amines, the reducing species being diborane generated in situ. This method successfully reduces primary, secondary and tertiary amides, lactams and chiral diketopiperazines, in moderate to high yields. An unusual ring cleavage is observed in the reduction of the pyrrolo[2,1-b]quinazolin-1-one (I) resulting in the formation of benzo-1,6-diazonine (II).
IT 5271-26-1P, Piperazine, 2-phenyl-
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 47 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:587608 CAPLUS
DOCUMENT NUMBER: 119:187608
TITLE: A composition and method for simultaneous absorption of sulfur dioxide and nitric oxide
INVENTOR(S): Chang, Dane; Bedell, Stephen A.; Kirby, Larry H.
PATENT ASSIGNEE(S): Dow Chemical Co., USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9303825	A1	19930304	WO 1992-US6736	19920812
W: CA, DE, GB, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
CA 2093901	AA	19930214	CA 1992-2093901	19920812
EP 552360	A1	19930728	EP 1992-918433	19920812
R: DE, GB				
JP 06502349	T2	19940317	JP 1993-504406	19920812
GB 2264488	A1	19930901	GB 1993-7576	19930413
GB 2264488	B2	19950222		
PRIORITY APPLN. INFO.:			US 1991-744157	A 19910813
			WO 1992-US6736	W 19920812

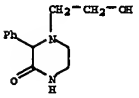
OTHER SOURCE(S): MARPAT 119:187608
AB SO2 and NO are simultaneously removed from flue gases by an absorption process and apparatus using an absorbent composition comprising an aqueous solution of chelates and sulfite salt for NO abatement and amine SO2 absorbents such as piperazinones, morpholinones, piperidines, piperazines, piperazinediones, hydantoins, triazinones, pyrimidinones, oxazolidones, etc., for SO2 abatement. SO2 is thermally stripped from the spent absorbent and recovered. Metal chelates oxidized to an inactive state as a side-reaction are electrochem. reduced. An anionic exchange membrane in the electrochem. cell regenerates heat stable amine salt byproducts to be converted back to usable amine sorbent, and facilitates removal from the absorbent solution of other waste salts. .
IT 23936-08-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 23936-08-5 CAPLUS
CN Piperazinone, 4-(2-hydroxyethyl)-3-phenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 48 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:502416 CAPLUS
DOCUMENT NUMBER: 119:102416
TITLE: Quaternary polyamines as sulfite oxidation inhibitors in amine scrubbing of sulfur dioxide
INVENTOR(S): Bedell, Stephen A.
PATENT ASSIGNEE(S): Dow Chemical Co., USA
SOURCE: U.S., 12 pp. Cont.-in-part of U.S. 5,019,365.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5167941	A	19921201	US 1990-623313	19901206
US 5019365	A	19910528	US 1990-546075	19900629
PRIORITY APPLN. INFO.:			US 1988-277159	B2 19881129
			US 1990-546075	A2 19900629

OTHER SOURCE(S): MARPAT 119:102416
AB SO32- oxidation is inhibited in alkaline scrubbing solns. for removal of SO2 from flue gases by adding 1-3000 ppm of a polyelectrolyte containing quaternary ammonium groups (mol. weight >10,000) to the scrubbing solution The scrubbing solution contains amines, e.g., piperazinones, morpholinones, piperidines, piperazines, piperazinediones, hydantoins, triazinones, pyrimidones, oxazolidones, and N-carboxymethyl ethylenediamines. Suitable polyelectrolytes include the reaction products of starch and chlorohydroxypropyl tri-Me ammonium salt or glycidyl tri-Me ammonium chloride, poly(diallyldimethylammonium chloride) and copolymers of acrylamide and quaternary ammonium compds.
IT 23936-08-5
RL: USES (Uses)
(sulfur dioxide scrubbing solns. containing, and antioxidants for sulfites)
RN 23936-08-5 CAPLUS
CN Piperazinone, 4-(2-hydroxyethyl)-3-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 49 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:448767 CAPLUS
DOCUMENT NUMBER: 119:48767
TITLE: Stereochemistry of 1,3,4-trimethyl-2-phenylpiperazines: divergence between calculated MMX and NMR determination of proportions of conformational equilibrium
AUTHOR(S): Gelbcke, M.; Tytgat, D.
CORPORATE SOURCE: Lab. Chim. Pharm. Org., Univ. Libre de Bruxelles, Bruxelles, B-1050, Belg.
SOURCE: Bulletin des Societes Chimiques Belges (1993), 102(1), 67-74
CODEN: BSCBAG; ISSN: 0037-9646
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Cis- and trans-1,3,4-trimethyl-2-phenylpiperazine have been synthesized and their most stable conformers were estimated by the MMX88.9 program. In the cis derivative at room temperature a rapid equilibrium between two conformers differing in the stereochem. of the atoms at the position 2 and 3 was predicted (ratio ≈ 7:3). The major species would be the conformer with an axial Ph. Their 1H- and 13C-NMR spectra taken at different temps. confirm the existence of such an equilibrium in the cis compds., but a discrepancy in their proportion is noticed. The major species has an equatorial Ph.
IT 148502-22-1P 148502-23-2P 148518-39-2P 148518-40-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conformational equilibrium of)
RN 148502-22-1 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl-, dihydrochloride, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.

●2 HCl

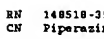
RN 148502-23-2 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl-, dihydrochloride, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

●2 HCl

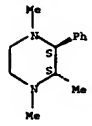
RN 148518-39-2 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 148518-40-5 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L7 ANSWER 50 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:125768 CAPLUS
DOCUMENT NUMBER: 118:125768
TITLE: Air-activatable polymerizable compositions
INVENTOR(S): Kneafsey, Brendan; Guthrie, John; Melody, David P.
PATENT ASSIGNEE(S): Loctite (Ireland) Ltd., Ire.
SOURCE: Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 502733	A1	19920909	EP 1992-301899	19920305
EP 502733	B1	19970910		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, PT, SE				
CA 2062400	AA	19920907	CA 1992-2062400	19920305
NO 9200871	A	19920907	NO 1992-871	19920305
NO 300693	B1	19970707		
AU 9211439	A1	19920910	AU 1992-11439	19920305
AU 646148	B2	19940210		
BR 9200743	A	19921110	BR 1992-743	19920305
AT 157993	E	19970915	AT 1992-301899	19920305
ES 2106824	T3	19971116	ES 1992-301899	19920305
JP 05105846	A2	19930427	JP 1992-84533	19920306
JP 2952103	B2	19990920		
PRIORITY APPLN. INFO.:			IE 1991-741 A	19910306
			IE 1991-742 A	19910306
			IE 1992-471 A	19920213

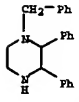
AB Peroxide-free title compns. which cure in the presence or absence of air, useful for 1-package adhesives and coatings, contain ≥1 free-radically polymerizable monomer and ≥1 auto-oxidizable compound such as imines having the N not bonded to another N and compds. containing C:CN groups with the C:C not part of a Ph ring as polymerization catalyst. The compns. may contain soluble salts as catalysts and weak organic acids to control the oxidation rate of the auto-oxidizable compds. Thus, a composition containing hydroxypropyl methacrylate, acrylic acid, Co naphthenate, Me methacrylate, hydrocarbon oil, and 3,5-diethyl-N-phenyl-2-propyl-1,2-dihydropyridine was applied to a steel plate exposed to air for 1 min, and the coated plate was pressed onto a similarly coated steel plate 1.5 min at 3 kg load to give a laminate with tensile shear bond strength 14.6 N/mm2.

IT 146362-58-5
RL: CAT (Catalyst use); USES (Uses)
(catalysts, air-activatable, for polymerization of free-radically polymerizable monomers as adhesives or coatings)

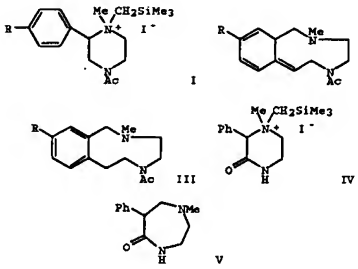
RN 146362-58-5 CAPLUS
CN Pyrazine, tetrahydro-2,3-diphenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)

CM 1

CRN 146362-57-4
CMF C23 H24 N2



L7 ANSWER 51 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:80918 CAPLUS
DOCUMENT NUMBER: 118:80918
TITLE: Sommelet-Hauser or Stevens rearrangement of 1-methyl-2-(substituted phenyl)piperazinium 1-methylides. Ring enlargement of piperazines to seven- or nine-membered cyclic amines
AUTHOR(S): Kitano, Tomoko; Shirai, Nachiro; Motoi, Manami; Sato, Yoshiro
CORPORATE SOURCE: Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1992), (21), 2851-4
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 118:80918
GI

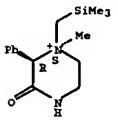


AB Fluoride ion-induced desilylation of 4-acetyl-1-methyl-2-(4-substituted phenyl)-1-trimethylsilyl-methylpiperazinium iodides I (R = H, MeO) gave 5-acetyl-2-methyl-10-substituted 1,3,4,5,6,11a-hexahydro-2H-2,5-benzodiazonines II and/or 5-acetyl-2-methyl-10-substituted 2,3,4,5,6,7-hexahydro-1H-2,5-benzodiazonines III (Sommelet-Hauser rearrangement products). However, a similar treatment of 1-methyl-3-oxo-2-phenyl-1-trimethylsilylmethylpiperazinium iodide (IV) afforded 1-methyl-6-phenyl-2,3,6,7-tetrahydro-1H-diazepine-5-one (V) (Stevens rearrangement product).

IT 145729-99-3P 145730-00-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Stevens rearrangement of)

RN 145729-99-3 CAPLUS
CN Piperazinium, 1-methyl-3-oxo-2-phenyl-1-[(trimethylsilyl)methyl]-, iodide, cis- (9CI) (CA INDEX NAME)

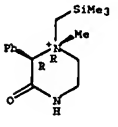
Relative stereochemistry.



● I-

RN 145730-00-3 CAPLUS
CN Piperazinium, 1-methyl-3-oxo-2-phenyl-1-[(trimethylsilyl)methyl]-, iodide, trans- (9CI) (CA INDEX NAME)

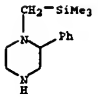
Relative stereochemistry.



● I-

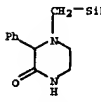
IT 145729-86-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acetylation of)

RN 145729-86-8 CAPLUS
CN Piperazine, 2-phenyl-1-[(trimethylsilyl)methyl]- (9CI) (CA INDEX NAME)



IT 145729-84-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and reduction or methylation-quaternization of)

RN 145729-84-6 CAPLUS
CN Piperazinone, 3-phenyl-4-[(trimethylsilyl)methyl]- (9CI) (CA INDEX NAME)



IT 5368-28-5, 3-Phenyl-2-piperazinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(silylation of)

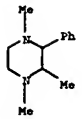
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 52 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:625747 CAPLUS
DOCUMENT NUMBER: 117:225747
TITLE: Effects of 3,-N,N'-trimethyl-2-phenyl-1,4-piperazine diastereomers on monoamine uptake and monoamine oxidase in rat brain
AUTHOR(S): Smith, D. F.; Jensen, P. N.; Gelbcke, M.; Tytgat, D.
CORPORATE SOURCE: Psychopharmacol. Res. Unit, Psychiatr. Hosp., Risskov, Den.
SOURCE: Journal of Neural Transmission: General Section (1992), 88(3), 177-85
CODEN: JNGSE9; ISSN: 0300-9564
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The diastereomers of 3-N,N'-trimethyl-2-phenyl-1,4-piperazine dihydrochloride (TPP) were tested for their effects on NA, DA and 5-HT uptake in synaptosomes prepared from hypothalamus, corpus striatum, and frontal cortex, resp. The diastereomers differed with respect to their inhibitory properties. (2R, 3R)-TPP was more potent than the other diastereomers on NA and DA uptake, whereas (2S, 3S)-TPP was least potent. In contrast, the (2S,3S)- and (2S,3R)-diastereomers of TPP were more potent than (2R, 3R)- and (2R, 2S)-TPP as inhibitors of 5-HT uptake. None of the diastereomers affected monoamine oxidase activity. The findings

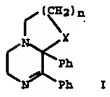
show that the diastereomers of TPP interact stereoselectively with neuronal mechanisms for monoamine uptake, and that the (S)-configuration of the 2 carbon is important for inhibitory actions of TPP on 5-HT uptake.

IT **115238-12-5D**, diastereomers
RL: BIOL (Biological study)
(monoamine uptake and monoamine oxidase in brain response to)

RN 115238-12-5 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 53 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:591810 CAPLUS
DOCUMENT NUMBER: 117:191810
TITLE: Preparation and hydrogenolysis of fused piperazines by reaction of diamine and triamine derivatives with benzil. Application to the synthesis of terminal N-monoprotected triamines
AUTHOR(S): Okawara, Tadashi; Uchiyama, Koichi; Okamoto, Yoshinari; Yamasaki, Tetsuo; Furukawa, Mitsuru
CORPORATE SOURCE: Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, 862, Japan
SOURCE: Journal of Chemical Research, Synopses (1992), (8), 264-5
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:191810
GI

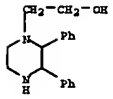


I

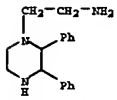
AB Reaction of diamine and triamine derivs. with benzils affords tetrahydrooxazolopyrazines hexahydroimidazolopyrazines and hexahydropyrazinepyrimidines I (X = O, NH; n = 1, 2). Their application to the synthesis of terminal N-monoacylated triamines, e.g., H2N(CH2)2NH(CH2)2NHBz is described.

IT **143699-18-7P 143699-19-8P 143699-20-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and benzoylation of)

RN 143699-18-7 CAPLUS
CN 1-Piperazineethanol, 2,3-diphenyl- (9CI) (CA INDEX NAME)



RN 143699-19-8 CAPLUS
CN 1-Piperazineethanamine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

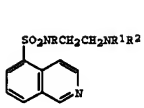


RN 143699-20-1 CAPLUS
CN 1-Piperazinepropanamine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

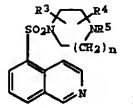
IT **143699-24-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 143699-24-5 CAPLUS
CN Piperazine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 54 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:255586 CAPLUS
DOCUMENT NUMBER: 116:255586
TITLE: 5-Isoquinolinesulfonamide derivatives. III. Synthesis and vasodilatory activity of 1-(5-isoquinolinesulfonyl)piperazine derivatives
AUTHOR(S): Morikawa, Anri; Sone, Takanori; Asano, Toshio
CORPORATE SOURCE: Life-Sci. Inst., Asahi Chem. Ind. Co., Ltd., Nobeoka, 882, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1992), 40(3), 770-3
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I



II

AB On the basis of a hypothesis that cyclization and alkylation of the diamine part of aminoalkylisoquinolinesulfonamides, e.g., I (R,R1,R2 = H, alkyl), would give highly active compds., a new series of 5-isoquinolinesulfonamide derivs., II (R3 = H, 2-, 3-Me; R4 = H, 3-, 5-Me; R5 = H, alkyl, aryl, acyl, n = 1,2) were prepared from cyclic diamines. Their vasodilating effects were subsequently evaluated in vivo according to the increase in arterial blood flow after injection locally into the femoral and/or vertebral arteries of dogs. Cyclization of the diamine structure in I gave very potent vasodilators. II (R3-R5 = H; n = 1 (III), 2 (IV)). Acylation and sulfonylation of the terminal amino nitrogen afforded much less potent compds. In contrast to the hypothesis, alkylation on the ring carbon and the terminal nitrogen of the cyclic amine afforded less active compds. except for II (R3 = 2-Me, R4 = 5-Me, R5 = H, n = 2) (V). The most active compds., III IV and V showed more potent vasodilating effects and more selective activity in the vertebral artery than either trapidil or diltiazem.

IT **5271-26-1**, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfonylation of, with isoquinolinesulfonyl chloride)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 55 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:83485 CAPLUS
DOCUMENT NUMBER: 116:83485
TITLE: Generation of 2-azaallyl anions by the transmetalation of N-(trialkylstannyl)methanimines. Pyrrolidine synthesis by [3 + 2] cycloadditions with alkenes
AUTHOR(S): Pearson, William H.; Szura, Daniel P.; Postich, Michael J.
CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109-1055, USA
SOURCE: Journal of the American Chemical Society (1992), 114(4), 1329-45
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:83485
GI

I

AB Treatment of N-(trimethylstannyl)methanimines or N-(tributylstannyl)methanimines with MeLi or BuLi, resp., affords 2-azaallyl anions by tin-lithium exchange. These anions undergo intermol. or intramol. [4s + 2s] cycloaddns. with alkenes and alkynes to generate pyrrolidines or pyrrolines after quenching with water or other electrophiles. Thus, treatment of (azaallyl)stannane PhCH:NCH2SnMe3 with MeLi, then trans-stilbene afforded pyrrolidine I in 83% yield after work-up. The tin-lithium exchange method allows unstabilized 2-azaallyl anions to be generated for the first time. The lifetime of the anions is limited by a competing intermol. side reaction. Therefore, relatively reactive alkenes and alkynes must be used, such as stilbene, styrenes, enynes, diphenylacetylene, vinyl sulfides, vinyl selenides, and vinylsilanes. The latter three types of anionophiles afford functionalized cycloadducts which may be transformed into more useful pyrrolidines by reduction, elimination, or oxidation. A synthesis of the alkaloid (±)-mesembrane was accomplished using an intramol. 2-azaallyl anion cycloaddn.

IT **81602-00-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

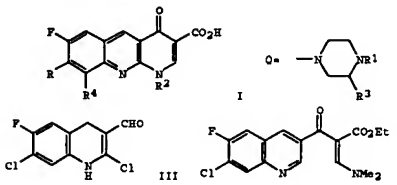
Relative stereochemistry.

L7 ANSWER 56 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:6538 CAPLUS
DOCUMENT NUMBER: 116:6538
TITLE: Preparation of 8-piperazinobenzo[b][1,8]naphthyridin-4-one-3-carboxylates as antibacterial and antiviral agents
INVENTOR(S): Antoine, Michel; Barreau, Michel; Desconclois, Jean Francois; Girard, Philippe; Picaut, Guy
PATENT ASSIGNEE(S): Laboratoire Roger Bellon S. A., Fr.
SOURCE: Eur. Pat. Appl., 38 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 431991	A1	19910612	EP 1990-403047	19901029
EP 431991	B1	19940112		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2653663	A1	19910503	FR 1989-14203	19891030
FR 2653663	B1	19920110		
FR 2664595	A1	19920117	FR 1990-8757	19900710
FR 2664595	B1	19920918		
RO 108347	B1	19940428	RO 1990-146164	19901022
CA 2028730	AA	19910501	CA 1990-2028730	19901029
AU 9065551	A1	19910502	AU 1990-65551	19901029
AU 629997	B2	19921015		
NO 9004683	A	19910502	NO 1990-4683	19901029
NO 175433	B	19940704		
NO 175433	C	19941012		
HU 55778	A2	19910628	HU 1990-6926	19901029
HU 208138	B	19930830		
ZA 9008639	A	19910828	ZA 1990-8639	19901029
AT 100103	E	19940115	AT 1990-403047	19901029
FI 92068	B	19940615	FI 1990-5329	19901029
FI 92068	C	19940926		
PL 164270	B1	19940729	PL 1990-287563	19901029
ES 2062455	T3	19941216	ES 1990-403047	19901029
IL 96159	A1	19941229	IL 1990-96159	19901029
CZ 280513	B6	19960214	CZ 1990-5297	19901029
JP 03151384	A2	19910627	JP 1990-293501	19901030
US 5053509	A	19911001	US 1990-605340	19901030
RU 2047613	C1	19951110	RU 1992-5011989	19920708
PRIORITY APPLN. INFO.:			FR 1989-14203 A	19891030
			FR 1990-8757 A	19900710
			EP 1990-403047 A	19901029

OTHER SOURCE(S): MARPAT 116:6538

GI



I

III

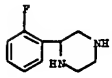
IV

AB Title compds. [I; R = piperazine group Q; R1 = H, OH, alkyl; R2 = H, (fluoro)alkyl, cycloalkyl, alkoxy, alkylamino; R3 = (un)substituted Ph, phenylalkyl, etc.; R4 = H, F] (II) were prepared Thus, ClCH2CH2COCl was condensed with 3,4-ClFC6H3NH2 and the product cyclized to give 7-chloro-6-fluoro-3,4-dihydrocarbostyril which, under Vilsmier-Haack conditions, gave dihydroquinoline III. The latter was converted in 4 steps to quinolinylenaminone IV which was cyclocondensed with MeNH2 to give, after saponification, I (R = Cl, R2 = Me, R4 = H) (V). Condensation of V with 2-phenylpiperazine gave II (R1 = R4 = H, R2 = Me, R3 = Ph). I are active against Staphylococcus aureus IP 8203 in mice at 4-150 mg/kg orally.

IT 137684-18-5P 137766-74-6P 137766-76-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of bactericides and antiviral agents)

RN 137684-18-5 CAPLUS
CN Piperazine, 2-(2-fluorophenyl)- (9CI) (CA INDEX NAME)



RN 137766-74-6 CAPLUS
CN Piperazine, 2-phenyl-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 137766-76-8 CAPLUS
CN Piperazine, 2-phenyl-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of bactericides and antiviral agents)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 57 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1991:613993 CAPLUS
DOCUMENT NUMBER:	115:213993
TITLE:	Quaternary polyamines as sulfite oxidation inhibitors in scrubbers
INVENTOR(S):	Bedell, Stephen A.
PATENT ASSIGNEE(S):	Dow Chemical Co., USA
SOURCE:	U.S., 5 pp. Cont.-in-part of U.S. Ser. No. 277,159, abandoned.
	CODEN: USXKAM
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	3
PATENT INFORMATION:	

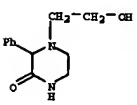
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5019365	A	19910528	US 1990-546075	19900629
BR 8906214	A	19900626	BR 1989-6214	19891127
CA 2004051	AA	19900529	CA 1989-2004051	19891128
DK 8906001	A	19900530	DK 1989-6001	19891128
NO 8904741	A	19900530	NO 1989-4741	19891128
AU 8945671	A1	19900607	AU 1989-45671	19891128
CN 1043088	A	19900620	CN 1989-109553	19891128
CN 1033005	B	19961016		
JP 02194815	A2	19900801	JP 1989-306759	19891128
ZA 8909106	A	19910731	ZA 1989-9106	19891129
US 5167941	A	19921201	US 1990-623313	19901206
PRIORITY APPLN. INFO.:			US 1988-277159 B2	19881129
			US 1990-546075 A2	19900629

OTHER SOURCE(S): MARPAT 115:213993

AB SO32- oxidation is inhibited in alkaline scrubbing solns. for removal of SO2 from gases by adding 1-3000 ppm of a polyelectrolyte containing quaternary ammonium groups (mol. weight >10,000) to the scrubbing solution which also contains ≥0.1M piperazinone or morpholinone compds. Suitable polyelectrolytes are poly(diallyldimethylammonium chloride) and N-(3-chloro-2-hydroxypropyl)pyridinium chloride.

IT 23936-08-5
RL: USES (Uses)
(sulfur dioxide scrubbing solns. containing, and anticoxidants for sulfites)

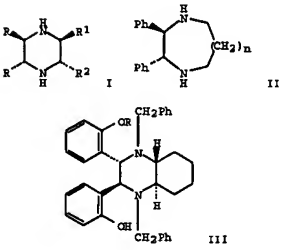
RN 23936-08-5 CAPLUS
CN Piperazinone, 4-(2-hydroxyethyl)-3-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 58 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1991:247236 CAPLUS
DOCUMENT NUMBER:	114:247236
TITLE:	Electroorganic chemistry. 129. Electroreductive synthesis of chiral piperazines and enantioselective addition of diethylzinc to aldehydes in the presence of the chiral piperazines
AUTHOR(S):	Shono, Tatsuya; Kise, Naoki; Shirakawa, Eiji; Matsumoto, Hideshi; Okazaki, Eiichi
CORPORATE SOURCE:	Fac. Eng., Kyoto Univ., Kyoto, 606, Japan
SOURCE:	Journal of Organic Chemistry (1991), 56(9), 3063-7 CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 114:247236

GI



I II

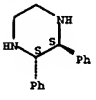
III

AB Electroredn. of chiral diimines RCH:NCHR1CHR2N:CHR [R = Ph, 4-MeOC6H4, 4-ClC6H4, 1-naphthyl; R1 = H, Me, Me2CHCH2; R2 = H; R1R2 = (CH2)4] in acidic media gave intramol. coupled products, 2,3-diarylpiperazines I, stereoselectively. Seven- and eight-membered cyclic compds. II (n = 1, 2) were synthesized by the same method. Benzylated piperazines III (R = H, CH2Ph) were effective chiral ligands of catalysts for the enantioselective addition of diethylzinc to aldehydes. Thus, adding Et2Zn to PhCHO in the presence of III (R = H) gave (S)-1-phenylpropanol.

IT 81602-00-8P 169395-32-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

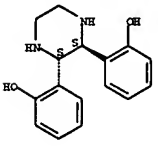
RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

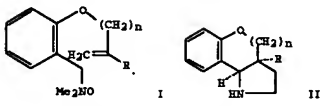


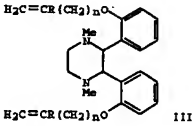
RN 169395-32-8 CAPLUS
CN Phenol, 2,2'-(2,3-piperazinediyl)bis-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



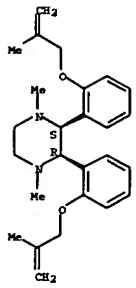
L7 ANSWER 59 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:42733 CAPLUS
DOCUMENT NUMBER: 114:42733
TITLE: The [3+2] intramolecular cycloaddition reaction of azomethine ylides generated from benzylic N-oxides
AUTHOR(S): Roussi, Georges
CORPORATE SOURCE: Inst. Chim. Subst. Nat., CNRS, Gif-sur-Yvette, 91198, Fr.
SOURCE: Heterocycles (1990), 31(8), 1445-50
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:42733
GI





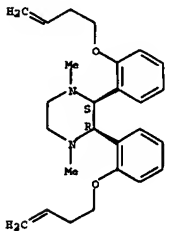
AB Intramol. cycloaddn. of azomethine ylides, generated from benzylic N-oxides I (n = 1, 2, 3; R = H, Me), give tricyclic compds. II (n = 1, 2; R = H, Me) and cis- and trans-piperazines III (R = Me, n = 1, R = H, n = 2, 3) upon reaction with LDA.
IT **131471-15-3P 131471-18-6P 131471-20-0P**
131471-21-1P 131471-23-3P 131471-24-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 131471-15-3 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-bis[2-[(2-methyl-2-propenyl)oxy]phenyl]-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



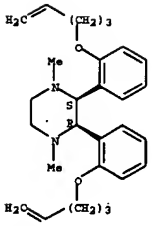
RN 131471-18-6 CAPLUS
CN Piperazine, 2,3-bis[2-(3-butenyloxy)phenyl]-1,4-dimethyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



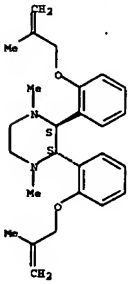
RN 131471-20-0 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-bis[2-(4-pentenyloxy)phenyl]-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



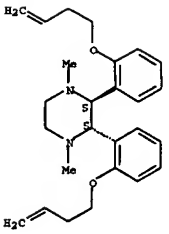
RN 131471-21-1 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-bis[2-[(2-methyl-2-propenyl)oxy]phenyl]-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



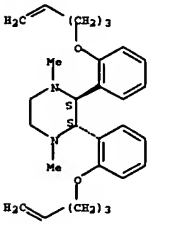
RN 131471-23-3 CAPLUS
CN Piperazine, 2,3-bis[2-(3-butenyloxy)phenyl]-1,4-dimethyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 131471-24-4 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-bis[2-(4-pentenyloxy)phenyl]-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



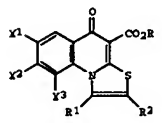
L7 ANSWER 60 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:406328 CAPLUS
DOCUMENT NUMBER: 113:6328
TITLE: Preparation of thiazoloquinolonecarboxylic acid derivatives and their pharmaceutical compositions as antitumor agents
INVENTOR(S): Hosomi, Jiro; Asahina, Yoshikazu; Suzue, Seigo
PATENT ASSIGNEE(S): Kyorin Pharmaceutical Co., Ltd., Japan; Kyowa Hakko Kogyo Co., Ltd.
SOURCE: PCT Int. Appl., 61 pp.
CODEN: PIXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8912055	A1	19891214	WO 1989-JP581	19890607

W: KR, US
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE

JP 02138284	A2	19900528	JP 1989-142565		19890605
PRIORITY APPLN. INFO.:			JP 1988-139396	A	19880608
			JP 1988-199929	A	19880812

OTHER SOURCE(S): MARPAT 113:6328
GI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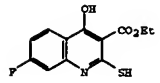
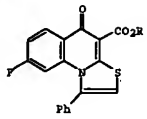

II


III

AB The title compds. [I; R = H, C2-6 alkyl; R1,R2 = H, C1-6 alkyl, (fluoro)phenyl; X1,X3 = H, F; X2 = halo, (substituted) pyrrolidine, piperazino, etc.; dotted line denotes single or double bond], useful as antitumor agents and DNA topoisomerase II inhibitors, are prepared Refluxing a mixture of 2.24 mmol mercaptan compound II and 2.46 mmol PhCOCH2Br in EtOH, concentration, filtration of the residue in Et2O-EtOH suspension, stirring the resulting crystals in CF3SO3H, adding H2O, and extraction with CHCl3 gave 70 mg ester III (R = Et) and 260 mg acid III (R = H). Also prepared were 35 addnl. I which showed IC50 of 0.18-0.31 μg/mL against human colon cancer DLD-1 cells, vs. 0.02 μg/mL with etoposide. A tablet formulation was given.

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of antitumor agents)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

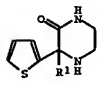
L7 ANSWER 61 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1990:216960 CAPLUS
DOCUMENT NUMBER:	112:216960
TITLE:	Thienylpiperazinones, their preparation and use as nootropics
INVENTOR(S):	Schoenafinger, Karl; Beyerle, Rudi; Schindler, Ursula
PATENT ASSIGNEE(S):	Cassella A.-G., Fed. Rep. Ger.
SOURCE:	Eur. Pat. Appl., 12 pp. CODEN: EPXYDW
DOCUMENT TYPE:	Patent
LANGUAGE:	German
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 342536	A1	19891123	EP 1989-108550	19890512
EP 342536	B1	19920923		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
ZA 8903766	A	19900228	ZA 1989-3766	19880519
DE 3817198	A1	19891130	DE 1988-3817198	19880520
DK 8902145	A	19891121	DK 1989-2145	19890502
US 4898866	A	19900206	US 1989-349540	19890509
AT 80885	E	19921015	AT 1989-108550	19890512
ES 2052807	T3	19940716	ES 1989-108550	19890512
JP 02017185	A2	19900122	JP 1989-124583	19890519
HU 55388	A2	19910528	HU 1989-2509	19890519
PRIORITY APPLN. INFO.:			DE 1988-3817198 A	19880520
			EP 1989-108550 A	19890512

OTHER SOURCE(S): CASREACT 112:216960; MARPAT 112:216960
GI


I

AB The title compds. [I; R1 = (substituted) Ph, phenylalkyl, naphthylalkyl, alkoxyalkyl, aminoalkyl] were prepared Thus, MeMgI in Et2O was added at room temperature to 3-[2-thienyl)-5,6-dihydropyrazin-2-one in THF. The mixture was stirred 15 h to give I (R1 = Me). I at 30 mg/kg orally in mice gave 24-99% reversal of NaNO2-induced cerebral hypoxia.

IT 127044-86-4F 127044-92-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as nootropic)

RN 127044-86-4 CAPLUS
CN Piperazinone, 3-phenyl-3-(2-thienyl)- (9CI) (CA INDEX NAME)

RN 127044-92-2 CAPLUS
CN Piperazinone, 3-phenyl-3-(2-thienyl)-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

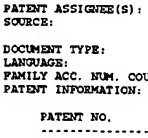
L7 ANSWER 62 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

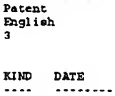
ACCESSION NUMBER:	1990:178712 CAPLUS
DOCUMENT NUMBER:	112:178712
TITLE:	Preparation and formulation of 1-cyclopropyl-6,7-difluoro-1,4-dehydro-4-oxo-3-quinoline carboxylic acid and analogs
PATENT ASSIGNEE(S):	Bayer A.-G., Fed. Rep. Ger.
SOURCE:	Can., 31 pp. Division of Can. Appl. No. 482,912. CODEN: CAXXA4
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 1259315	A2	19890912	CA 1988-577424	19880914
DE 3420770	A1	19851205	DE 1984-3420770	19840604
CA 1248954	A1	19890117	CA 1985-482912	19850531
PRIORITY APPLN. INFO.:			DE 1984-3420770 A	19840604
			CA 1985-482912 A3	19850531
			DE 1984-3420798 A	19840604

OTHER SOURCE(S): MARPAT 112:178712
GI


I



AB Title compds. I (X = Cl, F, Q; X1 = H, F; R1 = H, (un)substituted C1-4 alkyl; R2 = (un)substituted cyclohexyl, -Ph) their hydrates or salts useful as antibacterials against gram-pos. and -neg. organisms, and as preservatives for inorg. and organic materials (no data) are prepared I (X = Cl, X1 = H), QH (R1 = H, R2 = Ph), and 1,4-diazabicyclo[2.2.2]octane in DMSO were heated at 140° for 4 h to give 32% I (X = 3-phenyl-1-piperazinyl, X1 = H) (II). In test against Klebsiella the MIC was 0.015 μg/mL vs. 1 μg/mL for norfloxacin. A pharmaceutical formulation comprising I is given.

IT 5271-26-1, 2-Phenylpiperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution by, of quinolinecarboxylate derivative)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

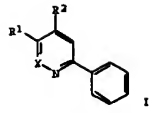
L7 ANSWER 63 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1989:619301 CAPLUS
DOCUMENT NUMBER:	111:219301
TITLE:	Pyridine or pyridazine derivatives as cardioprotective agents and for the treatment of ischemic disease, and process for their preparation
INVENTOR(S):	Takaya, Takao; Takasugi, Hisashi; Esumi, Kimio; Kuno, Atsushi; Sakai, Hiroyoshi; Maeda, Kazuhiro; Sakamoto, Yoshie
PATENT ASSIGNEE(S):	Fujisawa Pharmaceutical Co., Ltd., Japan
SOURCE:	Eur. Pat. Appl., 13 pp. CODEN: EPXYDW
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 311322	A2	19890412	EP 1988-309155	19881003
EP 311322	A3	19901122		
EP 311322	B1	19930721		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 4857527	A	19890815	US 1988-184195	19880421
ZA 8806889	A	19890530	ZA 1988-6889	19880915
FI 8804418	A	19890406	FI 1988-4418	19880927
AU 8823338	A1	19890601	AU 1988-23338	19881003
AU 621067	B2	19920305		
JP 01207234	A2	19890821	JP 1988-249593	19881003
AT 91626	E	19930815	AT 1988-309155	19881003
ES 2058301	T3	19941101	ES 1988-309155	19881003
DK 8805549	A	19890406	DK 1988-5549	19881004
NO 8804399	A	19890406	NO 1988-4399	19881004
CN 1041589	A	19900425	CN 1988-109132	19881004
HU 51614	A2	19900528	HU 1988-5132	19881004
CA 1317296	A1	19930504	CA 1988-579295	19881004
US 4990507	A	19910205	US 1989-294743	19890109
PRIORITY APPLN. INFO.:			JP 1987-251771 A	19871005
			US 1988-184195 A	19880421
			GB 1985-30602 A	19851212
			US 1986-940923 A2	19861212
			JP 1987-145996 A	19870611
			ZA 1988-6889 A	19880915
			EP 1988-309155 A	19881003

OTHER SOURCE(S): MARPAT 111:219301
GI



I

AB Pharmaceuticals contain, as a cardioprotective agent or a therapeutic agent for ischemic disease, a phenylpyridine or phenylpyrazine derivative I [R1 = alkyl substituted by a heterocyclic group; carbamoyl substituted by heterocyclic(lower)alkyl or alkylamino(lower)alkyl; N-containing heterocyclic carbonyl which is optionally substituted by lower alkyl; or ureido substituted by lower alkylamino(lower)alkyl; (a) R2 = nitrophenyl; X = :N, :CR3; R3 = lower alkyl; (b) R2 = lower alkyl; X = :CR3; R3 = nitrophenyl], salts of I, and carriers and excipients. A solution containing N-(aminoethyl)morpholine (170.5 g) in Me isobutyl ketone (200 mL) was added to a solution of diketene (102 mL) in Me isobutyl ketone (1.3 L) at -30° to -10° and to the resulting solution which contained N-(2-morpholinoethyl)acetoacetamide was added 3-(3-nitrophenyl)-1-phenyl-2-propen-1-one (220.4 g) and AcONH4 (100 g) and the mixture was stirred at 80° for 4.5 h to give 1,4-dihydro-3-(2-morpholinoethylcarbamoyl)-2-methyl-4-(3-nitrophenyl)-6-phenylpyridine. The latter compound was oxidized with MnO2 (700 g) to give 3-(2-morpholinoethylcarbamoyl)-2-methyl-4-(3-nitrophenyl)-6-phenylpyridine (II) (154 g; 39.6% yield). Isolated guinea pig hearts were perfused with a medium containing 10 + 10-6 g/mL II and ischemia was induced by stopping the perfusion. The change in cardiac depression (i.e. left ventricular systolic pressure × heart rate) was +4.1%, compared to a control; the recovery of ATP content of the heart was 96.3%; and the coronary flow was decreased by 1.6%. Tablets containing 2 mg II each were manufactured from a mixture containing II (100 g), hydroxypropyl Me cellulose (500 g), lactose (6.87 kg), low-substituted hydroxypropyl cellulose (1.5 kg), and Mg stearate (30 g).

IT 5271-26-1D, 2-Phenylpiperazine, derivs.
RL: BIOL (Biological study)
(as cardioprotective agents and agents for treatment of ischemic disease)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 64 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:553759 CAPLUS
DOCUMENT NUMBER: 111:153759
TITLE: Scope of the reductive coupling of aromatic aldimines using low-valent titanium reagents to form 1,2-diarylethylenediamines
AUTHOR(S): Betschart, Claudia; Schmidt, Beat; Seebach, Dieter
CORPORATE SOURCE: Lab. Org. Chem., Eidg. Tech. Hochsch., Zurich, CH-8092, Switz.
SOURCE: Helvetica Chimica Acta (1988), 71(8), 1999-2021
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 111:153759
GI

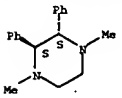
I

AB 4-RC6H4CH(NMe2)2 and 4-RC6H4CH:N+Me2 Cl- (R = H, Me, OMe, Br) were reductively coupled by TiCl4-Mg in THF to give 4-RC6H4CH(NMe2)CH(NMe2)C6H4R-4 with moderate diastereoselectivity. 4-RC6H4CH:NSiMe3 similarly gave 4-RC6H4CH(NH2)CH(NH2)C6H4R-4. R1R2NCHPhCHPhNR1R2 (NR1R2 = azetidino, 4-methylpiperazino, morpholino, thiomorpholino) were also obtained as mixts. of diastereomers. Cyclic diamines I [X = CH2CH2, (CH2)3, CH2CMe2CH2, 1,2-cyclohexanediyl] were obtained as trans racemates from (MeNH)2X and PhCHO. Enantiomerically pure I (X = CH2CHMe, CH2CHCH2Ph) were obtained from amino acid-derived diamines.

IT 81577-03-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and quaternization of)

RN 81577-03-9 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, trans- (9CI) (CA INDEX NAME)

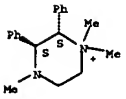
Relative stereochemistry.



IT 122688-07-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 122688-07-7 CAPLUS
CN Piperazinium, 1,1,4-trimethyl-2,3-diphenyl-, iodide, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

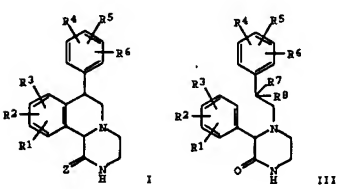


● I-

L7 ANSWER 65 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:497285 CAPLUS
DOCUMENT NUMBER: 111:97285
TITLE: A process for preparation of cis-1,3,4,6,7,11b-hexahydro-7-aryl-2H-pyrazino[2,1-a]isoquinoline derivatives as drugs
PATENT ASSIGNEE(S): Pennwalt Corp., USA
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01031772	A2	19890202	JP 1987-182418	19870723
PRIORITY APPLN. INFO.:			JP 1987-182418	19870723

OTHER SOURCE(S): MARPAT 111:97285
GI

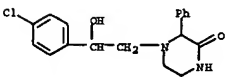


I III

AB The title compds. [I; Z = H2; R1-R6 sep. = H, halo, OH, NH2, lower aminoalkyl, CF3, lower alkyl, lower alkoxy, lower di- or monoalkylamino] (II), useful as drugs, e.g. antidepressants, were prepared from 3-phenyl-4-phenacyl-2-piperazinone deriv. (III; R7R8 = O). Reduction of 3-phenyl-4-[4-chlorophenacyl]-2-piperazinone (preparation given) with NaBH4 in MeOH at ≤50° to 3-phenyl-4-[2-hydroxy-2-(4-chlorophenyl)ethyl]-2-piperazinone and cyclization of the latter alc. by treatment with concentrated H2SO4 gave 98% a 4.5:1 mixture of trans- and cis-I (Z = O, R1-R5 = H, R6 = 4-Cl) (V). Refluxing the latter isomeric mixture in MeOH containing MeONa gave 89% cis-V containing <1% trans-V which was reduced with borane in refluxing THF to give, after acidification with aqueous HCl, cis-I.HCl (Z = H2, R1-R5 = H, R6 = 4-Cl).

IT 121851-69-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Friedel-Crafts cyclization of)

RN 121851-69-2 CAPLUS
CN Piperazinone, 4-[2-(4-chlorophenyl)-2-hydroxyethyl]-3-phenyl- (9CI) (CA INDEX NAME)

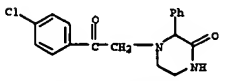


IT 5368-28-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and alkylation of, by chlorophenacyl bromide)

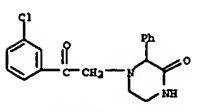
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

IT 118654-13-0P 118654-18-5P 118678-27-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and sodium borohydride reduction of)

RN 118654-13-0 CAPLUS
CN Piperazinone, 4-[2-(4-chlorophenyl)-2-oxoethyl]-3-phenyl- (9CI) (CA INDEX NAME)

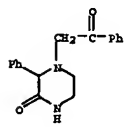


RN 118654-18-5 CAPLUS
CN Piperazinone, 4-[2-(3-chlorophenyl)-2-oxoethyl]-3-phenyl- (9CI) (CA INDEX NAME)

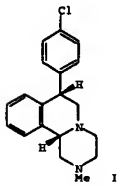


RN 118678-27-6 CAPLUS

CN Piperazinone, 4-(2-oxo-2-phenylethyl)-3-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 66 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:477964 CAPLUS
DOCUMENT NUMBER: 111:77964
TITLE: New atypical antidepressants: an efficient process for preparing cis-1,3,4,6,7,11b-hexahydro-2-methyl-7-aryl-2H-pyrazino[2,1-a]isoquinolines
AUTHOR(S): Schmiesing, Richard J.; Matz, James R.
CORPORATE SOURCE: Pharm. Div., Pennwalt Corp., Rochester, NY, 14603, USA
SOURCE: Heterocycles (1989), 29(2), 359-63
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:77964
GI



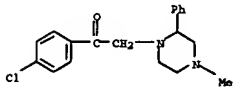
I

AB Pyrazinoisoquinoline derivative I was prepared by a multistep procedure starting from 3-phenyl-2-piperazinone.

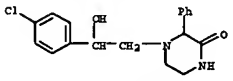
IT 118654-15-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acylation of, with chlorophenacyl bromide)
RN 118654-15-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

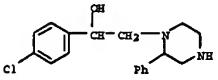
IT 118654-16-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and borohydride reduction of)
RN 118654-16-3 CAPLUS
CN Ethanone, 1-(4-chlorophenyl)-2-(4-methyl-2-phenyl-1-piperazinyl)- (9CI) (CA INDEX NAME)



IT 121851-69-2P 121851-72-7P 121851-77-2P
121851-78-3P 121851-79-4P 121851-80-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of)
RN 121851-69-2 CAPLUS
CN Piperazinone, 4-[2-(4-chlorophenyl)-2-hydroxyethyl]-3-phenyl- (9CI) (CA INDEX NAME)

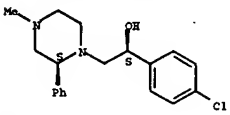


RN 121851-72-7 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-2-phenyl- (9CI) (CA INDEX NAME)



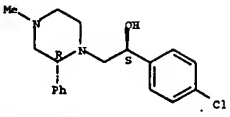
RN 121851-77-2 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-4-methyl-2-phenyl-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



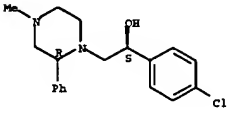
RN 121851-78-3 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-4-methyl-2-phenyl-, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 121851-79-4 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-4-methyl-2-phenyl-, dihydrochloride, (R*,S*)- (9CI) (CA INDEX NAME)

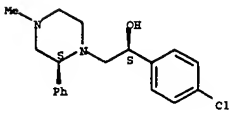
Relative stereochemistry.



●2 HCl

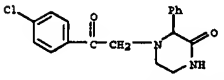
RN 121851-80-7 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-4-methyl-2-phenyl-, dihydrochloride, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



●2 HCl

IT 118654-13-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)
RN 118654-13-0 CAPLUS
CN Piperazinone, 4-[2-(4-chlorophenyl)-2-oxoethyl]-3-phenyl- (9CI) (CA INDEX NAME)



IT 5271-26-1P, 2-Phenylpiperazine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and N-methylation of)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

IT 5360-28-5, 3-Phenyl-2-piperazinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction or acylation of, with chlorophenacyl bromide)
RN 5360-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

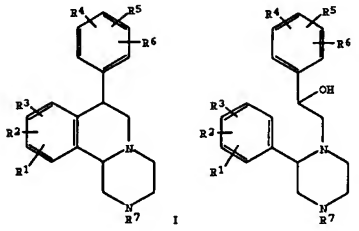
L7 ANSWER 67 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:75567 CAPLUS
DOCUMENT NUMBER: 110:75567
TITLE: Processes for the preparation of trans-1,3,4,6,7,11b-

hexahydro-7-aryl-2H-pyrazino[2,1-a]isoquinolines as antidepressants, antihistaminics, and cholinergics

INVENTOR(S): Schmiesing, Richard J.
PATENT ASSIGNEE(S): Pennwalt Corp., USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4772705	A	19880920	US 1985-759022	19850725
EP 300074	A1	19890125	EP 1987-110639	19870722
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
PRIORITY APPLN. INFO.:			US 1985-759022	19850725

OTHER SOURCE(S): CASREACT 110:75567; MARPAT 110:75567
GI

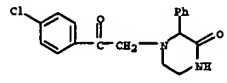


AB The title compds. I (R1-R3 = H, halo, CH, amino, lower aminoalkyl, CF3, etc.; R4-R6 = H, halo, OH, NO2, amino, lower aminoalkyl, etc.; R7 = H, lower alkyl), useful as antidepressants, antihistaminics, and cholinergics (no data) were prepared from phenylpiperazines II. N-Alkylation of 3-phenyl-2-piperazinone (preparation given) with 4-chlorophenacyl bromide, followed by reduction, cyclization in H2SO4, and workup, gave trans-1,3,4,6,7,11b-hexahydro-7-(4-chlorophenyl)-2H-pyrazino[2,1-a]isoquinoline-2HCl.

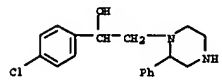
IT 5368-28-5P, 3-Phenyl-2-piperazinone 118654-13-0P 118654-14-1P 118654-15-2P 118654-16-3P 118654-17-4P 118654-18-5P 118678-27-6P, 3-Phenyl-4-phenacyl-2-piperazinone
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of antidepressant, antihistaminic, and cholinergic)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

RN 118654-13-0 CAPLUS
CN Piperazinone, 4-[2-(4-chlorophenyl)-2-oxoethyl]-3-phenyl- (9CI) (CA INDEX NAME)



RN 118654-14-1 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-2-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)

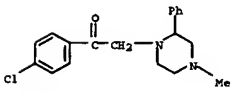


●2 HCl

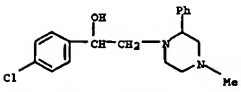
RN 118654-15-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

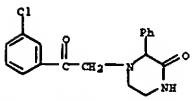
RN 118654-16-3 CAPLUS
CN Ethanone, 1-(4-chlorophenyl)-2-(4-methyl-2-phenyl-1-piperazinyl)- (9CI) (CA INDEX NAME)



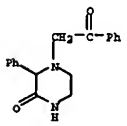
RN 118654-17-4 CAPLUS
CN 1-Piperazineethanol, α-(4-chlorophenyl)-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)



RN 118654-18-5 CAPLUS
CN Piperazinone, 4-[2-(3-chlorophenyl)-2-oxoethyl]-3-phenyl- (9CI) (CA INDEX NAME)



RN 118678-27-6 CAPLUS
CN Piperazinone, 4-(2-oxo-2-phenylethyl)-3-phenyl- (9CI) (CA INDEX NAME)

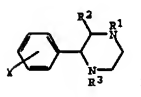


L7 ANSWER 68 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:437834 CAPLUS
DOCUMENT NUMBER: 109:37834
TITLE: Preparation of phenylpiperazines as antidepressants and sedatives
INVENTOR(S): Lafon, Louis
PATENT ASSIGNEE(S): Laboratoire L. Lafon, Fr.
SOURCE: Fr. Demande, 33 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2585702	A1	19870206	FR 1985-11684	19850731
FR 2585702	B1	19890303		
EP 211746	A1	19870225	EP 1986-401644	19860723
EP 211746	B1	19900523		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 53026	E	19900615	AT 1986-401644	19860723
DK 8603602	A	19870201	DK 1986-3602	19860729
DK 165876	B	19930201		
DK 165876	C	19930621		
AU 8660691	A1	19870205	AU 1986-60691	19860730
AU 580179	B2	19890105		
ZA 8605685	A	19870325	ZA 1986-5685	19860730
JP 62029576	A2	19870207	JP 1986-181806	19860731
JP 07030047	B4	19950405		
CA 1263392	A1	19891128	CA 1986-515056	19860731
US 4912110	A	19900327	US 1988-283736	19881213
PRIORITY APPLN. INFO.:			FR 1985-11684 A	19850731
			EP 1986-401644 A	19860723
			US 1986-891298 B2	19860731

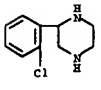
OTHER SOURCE(S): CASREACT 109:37834
GI



AB The title compds. [I; R1 = H, C1-4 alkyl; R2 = H, Cl, C2 alkyl; R3 = H, C1-4 alkyl; X = H, F, Cl, Br] and their salts, useful as antidepressants and sedatives, are prepared A mixture of PhCOCOMe and NH2CH2CH2NH2 (II) in MeOH was allowed to react for 0.5 h and then cooled in an ice bath, NaBH4 was added, and the reaction mixture was allowed to react overnight to give, after treatment with 3N HCl, 36% I (R1 = R3 = X = H, R2 = Me).2HCl (III). III and I (R1 = Et, R2 = R3 = H, X = 2-Cl) showed antidepressant and sedative effects in mice in extensive pharmacol. studies.

IT 65709-26-4P 104096-26-6P 115237-99-5P 115238-03-4P 115238-06-7P 115238-12-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as antidepressant and sedative)

RN 65709-26-4 CAPLUS
CN Piperazine, 2-(2-chlorophenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



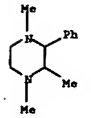
●2 HCl

RN 104096-26-6 CAPLUS
CN Piperazine, 2-methyl-3-phenyl- (6CI, 9CI) (CA INDEX NAME)

RN 115237-99-5 CAPLUS
CN Piperazine, 2-methyl-3-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)

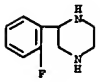
●2 HCl

RN 115238-03-4 CAPLUS
CN Piperazine, 1,2,4-trimethyl-3-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 115238-06-7 CAPLUS
CN Piperazine, 2-(2-fluorophenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

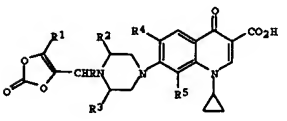
RN 115238-12-5 CAPLUS

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dihydrodibenzocycloheptylideneacetyl chloride)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 70 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:608934 CAPLUS
DOCUMENT NUMBER: 105:208934
TITLE: 1-Cyclopropyl-1,4-dihydro-4-oxo-7-[4-(2-oxo-1,3-dioxol-4-ylmethyl)-1-piperazinyl]-3-quinolinecarboxylic acids and their use and formulation as antibacterial agents
INVENTOR(S): Petersen, Uwe; Grohe, Klaus; Zeiler, Hans Joachim; Metzger, Karl Georg
PATENT ASSIGNEE(S): Bayer A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 49 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3504643	A1	19860814	DE 1985-3504643	19850212
US 4703047	A	19871027	US 1986-822714	19860127
EP 191390	A1	19860820	EP 1986-101348	19860203
EP 191390	B1	19890823		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 45738	E	19890915	AT 1986-101348	19860203
JP 61186379	A2	19860820	JP 1986-24237	19860207
JP 07080876	B4	19950830		
PRIORITY APPLN. INFO.:			DE 1985-3504643	A 19850212
			EP 1986-101348	A 19860203
OTHER SOURCE(S):	CASREACT 105:208934			

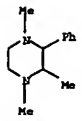
GI



I

AB Title compds. I [R = H; R1 = H, Ph, C1-4 alkyl; RR1 = C2-3 alkylene; R2, R3 = H, Me, Et, (substituted) Ph, cyclohexyl, furyl, tetrahydrofuryl, thienyl; R4 = H, F, Cl, Br, NO2; R5 = H, F, Cl, Br] are prepared These compds. are useful as medical and veterinary bactericides. Thus, I (R = R2 = R3 = R5 = H, R1 = Me, R4 = F) (II) was prepared in 8 steps. II was effective against gram-pos. and gram-neg. bacteria in vitro. I (initial definitions) were formulated as tablets containing I 583.0, cellulose 55.0, corn starch 72.0, polyvinylpyrrolidone 30.0, silica 5.0, Mg stearate 5.0 mg, which were coated with a mixture containing hydroxypropyl Me cellulose 6.0, polyethylene glycol 2.0, and TiO2 2.0 mg.

CN Piperazine, 1,2,4-trimethyl-3-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 69 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:417884 CAPLUS
DOCUMENT NUMBER: 107:17884
TITLE: preparation of novel compounds derived from diphenylmethyleneethylamine
INVENTOR(S): Cirera, Xavier D.; Andreoli, Romeo R.; Lloveras, Pedro P.; Bruseghini, Leonida; Irurre, Jose P.
PATENT ASSIGNEE(S): Sociedad Espanola de Especialidades Farmaco-Terapeuticas S. A., Spain
SOURCE: Span., 62 pp.
CODEN: SPXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Spanish
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 524680	A1	19841216	ES 1983-524680	19830802
EP 132764	A2	19850213	EP 1984-108424	19840717
EP 132764	A3	19851204		
EP 132764	B1	19910102		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
EP 357956	A2	19900314	EP 1989-114293	19840717
EP 357956	A3	19900829		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 59632	E	19910115	AT 1984-108424	19840717
AU 8431316	A1	19850207	AU 1984-31316	19840730
AU 580963	B2	19890209		
ZA 8405940	A	19860827	ZA 1984-5940	19840801
CA 1243018	A1	19881011	CA 1984-460173	19840801
JP 60126265	A2	19850705	JP 1984-163743	19840802
JP 06025091	B4	19940406		
US 4835156	A	19890530	US 1987-54408	19870526
US 4835179	A	19890530	US 1987-54409	19870526
US 5112826	A	19920512	US 1989-336881	19890412
PRIORITY APPLN. INFO.:			ES 1983-524680	A 19830802
			EP 1984-108424	P 19840717
			US 1984-635898	A2 19840730

GI For diagram(s), see printed CA Issue.
AB The title compds. [I; R1 = H, F; R2 = H, Me, CH2NHCONH2, CH2COC6H4CH2CO2H-4; R3 = H, Me; R4 = H, Ph, 4-HOC6H4; Y = H2, CH2CH2, CH:CH; Y = H2, O; Z = CH, (substituted) amino, alkanoyl, alkoxy; or R2Z forms a piperazine ring] are prepared for use as vasodilators, ulcer inhibitors, gastric secretion inhibitors, antiasthmatics, antihistaminics, and antidepressants. 10,11-Dihydrodibenzo[a,d]cyclohept-5-ylideneacetic acid was refluxed with SOCl2, and the acid chloride was amidated with 2-phenylpiperazine to yield II in 33% yield. II showed an ED30 of 2.42 + 10-5 M in vitro as a vasodilator in hyperkalemic rats, and an oral ED50 of 32.9 mg/kg as an antiulcer agent in indomethacin-treated rats.

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with fluorinated quinolinecarboxylates)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 71 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:591059 CAPLUS
DOCUMENT NUMBER: 105:191059
TITLE: 1-Cyclopropyl-1,4-dihydro-4-oxo-1,8-naphthyridine-3-carboxylic acids
INVENTOR(S): Petersen, Uwe; Grohe, Klaus; Zeiler, Hans Joachim; Metzger, Karl Georg
PATENT ASSIGNEE(S): Bayer A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 64 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3508816	A1	19860710	DE 1985-3508816	19850313
NO 8505134	A	19860711	NO 1985-5134	19851218
NO 163331	B	19900129		
NO 163331	C	19900509		
EP 187376	A2	19860716	EP 1985-116551	19851224
EP 187376	A3	19880504		
EP 187376	B1	19920513		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 76076	E	19920515	AT 1985-116551	19851224
US 4840954	A	19890620	US 1985-815440	19851231
IL 77538	A1	19920525	IL 1986-77538	19860107
FI 8600073	A	19860711	FI 1986-73	19860108
FI 86721	B	19920630		
FI 86721	C	19921012		
DD 241258	A5	19861203	DD 1986-286039	19860108
DD 257427	A5	19880615	DD 1986-296482	19860108
DD 257428	A5	19880615	DD 1986-296483	19860108
CA 1339373	A1	19970826	CA 1986-499241	19860108
DK 8600091	A	19860711	DK 1986-91	19860109
DK 168439	B1	19940328		
JP 61161284	A2	19860721	JP 1986-1485	19860109
JP 06053741	B4	19940720		
ZA 8600163	A	19860924	ZA 1986-163	19860109
HU 40126	A2	19861128	HU 1986-87	19860109
HU 193623	B	19871130		
AU 8652164	A1	19870122	AU 1986-52164	19860109
AU 574550	B2	19880707		
ES 550767	A1	19880616	ES 1986-550767	19860109
ES 550767	A5	19880715		
PL 148191	B1	19890930	PL 1986-264565	19860109

PL 140759	B1	19891130	PL 1986-257419	19860109
HU 202040	B	19910429	HU 1987-1847	19860109
CN 86100126	A	19860709	CN 1986-100126	19860110
CN 1003239	B	19890208		
WO 8600199	A	19860711	WO 1986-199	19860121
ES 557516	A1	19871016	ES 1987-557516	19870429
ES 557515	A1	19880216	ES 1987-557515	19870429
ES 557514	A1	19880301	ES 1987-557514	19870429
AU 8773118	A1	19870910	AU 1987-73118	19870515
AU 576449	B2	19880825		
ES 557785	A1	19880416	ES 1987-557785	19871215
AU 8818359	A1	19880915	AU 1988-18359	19880624
FI 8902675	A	19890601	FI 1989-2675	19890601
CA 1320206	A2	19930713	CA 1990-615694	19900405

PRIORITY APPLN. INFO.:

DE 1985-3500562	A1	19850110
DE 1985-3500816	A	19850313
EP 1985-116551	A	19851224
CA 1986-499241	A3	19860108
FI 1986-73	A	19860108

OTHER SOURCE(S): CASREACT 105:191059

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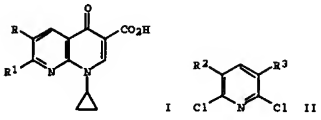

I

II

AB The title compds. [I; R = halo, NO2; R1 = (un)substituted 1-piperazinyl, 1-pyrrolidinyl] were prepared as bactericides and feed additives. Thus, 2,4-dichloro-5-methyl-3-pyridinamine (II, R2 = NH2, R3 = Me) was diazotized and coupled with Me2NH to give II (R2 = Me2NN:N, R3 = Me) which was fluorinated with HF to give II (R2 = F, R3 = Me). The latter was converted in 6 steps to II (R2 = F, R3 = EtO2CC(:CHOEt)CO) which was condensed with cyclopropylamine, followed by cyclization and hydrolysis of the ester group, to give I (R = F, R1 = Cl). The latter was heated with piperazine in Me2SO to give I (R = F, R1 = 1-piperazinyl) (III). III had a min. inhibitory concentration of ≤0.015 mcg/mL against Escherichia coli Neum. Tablets were prepared each containing III 583.0, microcryst. cellulose 55.0, cornstarch 72.0, polyvinylpyrrolidine 30.0, dispersed silica 5.0, and Mg stearate 5.0 mg.

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(aminolysis by, of chloronaphthyridinecarboxylates)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 72 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:186447 CAPLUS
DOCUMENT NUMBER: 104:186447

TITLE: 7-(3-Aryl-1-piperazinyl)- and 7-(3-cyclohexyl-1-piperazinyl)quinolone-3-carboxylic acids
INVENTOR(S): Petersen, Uwe; Grohe, Klaus; Zeiler, Hans Joachim; Metzger, Karl
PATENT ASSIGNEE(S): Bayer A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 44 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3420798	A1	19851205	DE 1984-3420798	19840604
CN 85101832	A	19870131	CN 1985-101832	19850401
CN 1014410	B	19911023		
US 4599334	A	19860708	US 1985-735493	19850517
EP 169993	A2	19860205	EP 1985-106252	19850522
EP 169993	A3	19860326		
EP 169993	B1	19881228		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 39488	E	19890115	AT 1985-106252	19850522
NO 8502063	A	19851205	NO 1985-2063	19850523
NO 165105	B	19900917		
NO 165105	C	19901227		
FI 8502205	A	19851205	FI 1985-2205	19850531
FI 82041	B	19900928		
FI 82041	C	19910110		
AU 8543206	A1	19851212	AU 1985-43206	19850531
AU 571333	B2	19880414		
JP 61001683	A2	19860107	JP 1985-116836	19850531
CA 1248954	A1	19890117	CA 1985-482912	19850531
IL 75370	A1	19890331	IL 1985-75370	19850531
IL 85549	A1	19890331	IL 1985-85549	19850531
DK 8502496	A	19851205	DK 1985-2496	19850603
DK 162527	B	19911111		
DK 162527	C	19920330		
ZA 8504168	A	19860129	ZA 1985-4168	19850603
ES 543839	A1	19860601	ES 1985-543839	19850603
HU 39175	A2	19860828	HU 1985-2145	19850603
HU 194866	B	19880328		
DD 240016	A5	19861015	DD 1985-276974	19850603
ES 552573	A1	19871101	ES 1986-552573	19860228
ES 552574	A1	19871101	ES 1986-552574	19860228
JP 06279411	A2	19941004	JP 1993-342256	19931215

PRIORITY APPLN. INFO.:

DE 1984-3420798		19840604
EP 1985-106252	A	19850522
IL 1985-75370	A	19850531

OTHER SOURCE(S): CASREACT 104:186447

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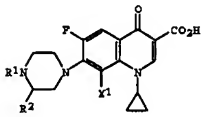

I

AB The title compds. [I; R1 = H, acyl, oxoalkyl, PhCOCH2, (un)substituted alkyl; R2 = (un)substituted cyclohexyl, Ph, methylenedioxycyclohexyl, methylenedioxyphenyl, (tetrahydro)furyl, thienyl; X1 = H, F] were prepared Thus, CH2(CO2Et)2 underwent Grignard benzoylation with 2,4,5-F3C6H2COF to give 2,4,5-F3C6H2COCH(CO2Et)2 which was decarboxylated and condensed with HC(OEt)3 to give 2,4,5-F3C6H2COC(:CHOEt)CO2Et. The latter was aminolyzed with cyclopropylamine, deesterified, and cyclized to give 1-cyclopropyl-6,7-difluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid. This was heated with 2-phenylpiperazine in Me2SO containing DBU to give I (R1 = X1 = H, R2 = Ph) (II). II had a min. inhibitory concentration ≤0.015 mcg/mL against Escherichia coli Neumann.

IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(aminolysis by, of fluoroquinolinecarboxylates)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 73 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:88607 CAPLUS
DOCUMENT NUMBER: 104:88607
TITLE: 2-Cyclohexylpiperazines
INVENTOR(S): Schubart, Ruediger; Ziemann, Heinz
PATENT ASSIGNEE(S): Bayer A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3420782	A1	19851205	DE 1984-3420782	19840604

PRIORITY APPLN. INFO.: DE 1984-3420782 19840604

OTHER SOURCE(S): CASREACT 104:88607

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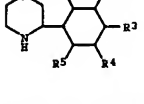


I

AB The title compds. (I; R1-R5 = H, alkyl, cyclohexyl, alkoxy, PhCH2O, alkoxycarbonyl, OH, halo, amino, piperidino, piperazinyl, thiazolyl, imidazolyl) were prepared by hydrogenation of phenylpiperazines over Ru catalysts supported on Al2O3 or C. Thus, 52 g 2-phenylpiperazine was hydrogenated in THF over Ru/Al2O3 at 150-160° and 160-200 bar to give 49 g I (R1-R5 = H). I are intermediates for bactericides.

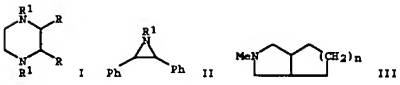
IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of, with ruthenium catalysts)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 74 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1985:422404 CAPLUS
DOCUMENT NUMBER: 103:22404
TITLE: Deprotonation of aliphatic amine N-oxides: general reaction scheme and new synthesis of pyrrolidines
AUTHOR(S): Beugelmans, Rene; Benadjila-Iguertsira, Leila; Chastanet, Jacqueline; Negrom, Guillermo; Roussi, Georges
CORPORATE SOURCE: Inst. Chim. Subst. Nat., CNRS, Gif-sur-Yvette, 91190, Fr.
SOURCE: Canadian Journal of Chemistry (1985), 63(3), 725-34
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 103:22404

GI



I II III

AB Amine oxides RCH2N(O)R1CH2R2 (R = Ph, R1 = Me, R2 = H, Ph; R = R2 = Ph, R1 = PhCH2; R = R2 = H, R1 = Me, Ph, 2,4,6-Me3C6H2) treated with Li[N(CHMe2)2] undergo deprotonation. Monodeprotonation gives rise to RCH2NHR2 and BzH via hydrolysis of the intermediate immonium ion or to R2CH2CHRNR1OH via a Stevens-like rearrangement. Double deprotonation gives an immonium ylide which, depending upon the structure of the initial tertiary amine yields either head to head piperazines I or aziridines II. The immonium ylide from Me3N(O) underwent cycloaddn. reactions with unactivated olefins, leading to a new and efficient synthesis of various pyrrolidines, e.g., III (n = 1,3,4).

IT 81601-99-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and methylation of)

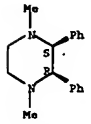
RN 81601-99-2 CAPLUS

CN Piperazine, 2,3-diphenyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.

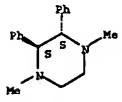
IT 81577-01-7P 81577-03-9P 96819-58-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 81577-01-7 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.

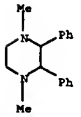


RN 81577-03-9 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 96819-58-8 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl- (9CI) (CA INDEX NAME)



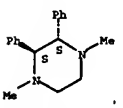
IT 81602-00-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, benzylation, and methylation of)
RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

artery in vitro.
IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isoquinolinesulfonyl chloride)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

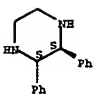
L7 ANSWER 76 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:582385 CAPLUS
DOCUMENT NUMBER: 97:182385
TITLE: Electrochemical reduction of di-Schiff bases. Synthesis of piperazines, indoloindoles, diazepines, and diazocines
AUTHOR(S): Koch, Russell W.; Dessy, Raymond E.
CORPORATE SOURCE: Chem. Dep., Virginia Polytech. Inst. and State Univ., Blacksburg, VA, 24061, USA
SOURCE: Journal of Organic Chemistry (1982), 47(23), 4452-9
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The electrochem. reduction of a series of di-Schiff bases has led to examples where products representing reduction, cyclization, and transannular cyclization are found. Useful synthetic pathways for piperazines, indoloindoles, diazepines, and diazocines are described.
IT 81577-03-9P 83027-12-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 81577-03-9 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 83027-12-7 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, dihydrochloride, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L7 ANSWER 75 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1983:71954 CAPLUS
DOCUMENT NUMBER: 98:71954
TITLE: Isoquinolinesulfonyl derivatives
INVENTOR(S): Hidaka, Hiroyoshi; Sone, Takanori; Sasaki, Yasuharu; Sugihara, Taisuke
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 82 pp.
CODEN: EPXKDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 61673	A1	19821006	EP 1982-102291	19820319
EP 61673	B1	19841024		
R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
JP 57156463	A2	19820927	JP 1981-39550	19810320
JP 63048869	B4	19880930		
JP 57200366	A2	19821208	JP 1981-82559	19810601
JP 63061942	B4	19881130		
JP 58121278	A2	19830719	JP 1982-2229	19820112
JP 01044188	B4	19890926		
JP 58121279	A2	19830719	JP 1982-3291	19820114
JP 02027992	B4	19900620		
US 4456757	A	19840626	US 1982-357770	19820312
US 4525589	A	19850625	US 1984-572418	19840120
US 4560755	A	19851224	US 1984-572419	19840120

PRIORITY APPLN. INFO.:

JP 1981-39550	A	19810320
JP 1981-82559	A	19810601
JP 1982-2229	A	19820112
JP 1982-3291	A	19820114
US 1982-357770	A3	19820312

OTHER SOURCE(S): CASREACT 98:71954
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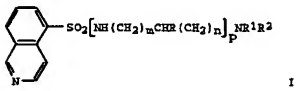
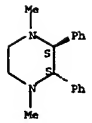


I

AB Isoquinolinesulfonamides I (m, n = 0-9; p = 0, 1; R = H, alkyl, cycloalkyl, aryl; R1, R2 = H, alkyl, cycloalkyl, aryl, aralkyl; NR1R2 = heterocyclic) were prepared Thus, 5-isoquinolinesulfonyl chloride was treated with H2N(CH2)4NH2 to give 62% N-(4-aminobutyl)-5-isoquinolinesulfonamide which had a vasodilator ED50 of 11 μM mesenteric



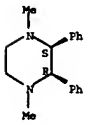
●2 HCl

L7 ANSWER 77 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:492234 CAPLUS
DOCUMENT NUMBER: 97:92234
TITLE: The reactivity of benzyldimethylamine N-oxide on treatment with strong bases
AUTHOR(S): Beugelmans, R.; Benadjila-Iguertsira, L; Roussi, G.
CORPORATE SOURCE: Inst. Chim. Sub. Nat., Gif-sur-Yvette, 91190, Fr.
SOURCE: Journal of the Chemical Society, Chemical Communications (1982), (10), 544-5
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

I

AB Treatment of the title compound with either BuLi in THF or LiNH2 in NH3 at -78° gave piperazines I (R = α-, β-Ph) and PhCHO. Analogous treatment of PhCH:N+Me2 gave only PhCHBuNMe2. A mechanism involving biradical intermediates is proposed for the formation of I.
IT 81577-01-7P 81577-03-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by reductive dimerization of benzyldimethylamine oxide)
RN 81577-01-7 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, cis- (9CI) (CA INDEX NAME)

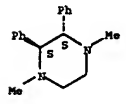
Relative stereochemistry.



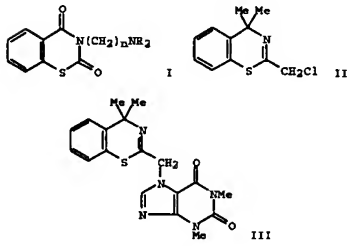
RN 81577-03-9 CAPLUS

CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, trans- (9CI) (CA INDEX NAME)

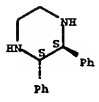
Relative stereochemistry.



L7 ANSWER 78 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:199608 CAPLUS
DOCUMENT NUMBER: 96:199608
TITLE: Synthesis and pharmacological activity of benzothiazine derivatives
AUTHOR(S): Lopatina, K. I.; Artemenko, G. N.; Sokolova, T. V.; Avdulov, N. A.; Zagorevskii, V. A.
CORPORATE SOURCE: Nauchno-Issled. Inst. Farm., Moscow, USSR
SOURCE: Khimiko-Farmatsevticheskii Zhurnal (1982), 16(2), 173-6
CODEN: KHFZAN; ISSN: 0023-1134
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 96:199608
GI

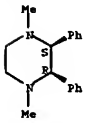


AB Alkylation of 1,3-benzothiazine-2,4-dione with NaH and Cl(CH2)nNR2 gave 60-4% I (n, R = 2, Me; 3, Me; 2, Et). Cycloaddn. of 2-PhCH2SC6H4CMe2OH with ClCH2CN gave II, which was aminated with heterocyclic amines or alkylated with AcNHCH(CO2Et)2. Of the compds. prepared, xanthinyl derivative III had the greatest antidepressant activity.
IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (chloromethyl)dimethylbenzothiazine)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)



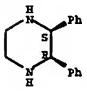
IT 81577-01-7 81601-99-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. isomerization of)
RN 81577-01-7 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



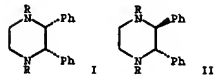
RN 81601-99-2 CAPLUS
CN Piperazine, 2,3-diphenyl-, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



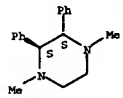
L7 ANSWER 80 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:456177 CAPLUS
DOCUMENT NUMBER: 91:56177
TITLE: Aminophosphine-rhodium complexes as catalysts in asymmetric hydrogenation. The dependence of the enantioselectivity on the structure of the chiral ligands
AUTHOR(S): Fiorini, M.; Giongo, G. M.
CORPORATE SOURCE: ASSORENI-Lab. Processi Microbiol., Monterotondo, 00015, Italy
SOURCE: Journal of Molecular Catalysis (1979), 5(4), 303-10
CODEN: JMCADS; ISSN: 0304-5102
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An investigation of the title asym. catalysts was extended to a series of structurally different chiral bis-aminophosphine ligands. The results, albeit restricted to a limited number of representative substrates, show that the catalyst enantioselectivity is markedly influenced, and in some cases substantially improved, by the chemical modification of the chelate ligand structure.
IT 70708-34-8P

L7 ANSWER 79 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:180416 CAPLUS
DOCUMENT NUMBER: 96:180416
TITLE: Photochemical cis, trans-isomerization in the 2,3-diphenylpiperazine series
AUTHOR(S): Benadjila-Iguertsira, L.; Chastanet, J.; Roussi, G.
CORPORATE SOURCE: Inst. Chim. Subst. Nat., CNRS, Gif-sur-Yvette, 91190, Fr.
SOURCE: Heterocycles (1982), 19(2), 213-15
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 96:180416
GI



AB Photolysis of I (R = H, Me) in MeCN gave II; I (R = CH2Ph) failed to isomerize. Under the same conditions II did not isomerize. Sensitization and quenching expts. with I (R = Me) suggested that isomerization proceeded via the singlet excited state.
IT 81577-03-9 81602-00-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(attempted photochem. isomerization of)
RN 81577-03-9 CAPLUS
CN Piperazine, 1,4-dimethyl-2,3-diphenyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

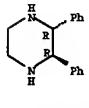


RN 81602-00-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with halo diphenylphosphine)
RN 70708-34-8 CAPLUS
CN Piperazine, 2,3-diphenyl-, (2R-trans)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 81 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:168547 CAPLUS
DOCUMENT NUMBER: 90:168547
TITLE: Synthesis of N-(2-piperazinoethyl)propionanilides
AUTHOR(S): Okada, Jutaro; Shimabayashi, Masaharu
CORPORATE SOURCE: Fac. Pharm. Sci., Kyoto Univ., Kyoto, Japan
SOURCE: Yakugaku Zasshi (1978), 98(12), 1619-28
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
OTHER SOURCE(S): CASREACT 90:168547
GI

AB Aminating PhNRCHR1CH2Br.HBr (R = H; R1 = H, Me) with I (R2 = H, Me, Ph; R3 = Me, Et, PhCH2, PhCH2CH2) gave II (R = H), which were N-acylated with (EtCO)2O to give II (R = EtCO). Treating PhNHCOCH2Br with I (R2 = H, R3 = Me) (III) followed by LiAlH4 reduction gave II (R-R2 = H; R3 = Me) in an overall yield (35.3%) lower than that (55.6%) by one-step amination of PhNHCH2CH2Br.HBr with III. The analgesic activity of II (R = EtCO; R1 = R3 = Me, R2 = H) was about 1/9 of that of morphine. The Me or Ph group at the 3 position of piperazine ring decreased the analgesic activity.
IT 5368-33-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-alkylation of, by bromoethylaniline)
RN 5368-33-2 CAPLUS
CN Piperazine, 2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)

L7 ANSWER 82 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1978:89714 CAPLUS
DOCUMENT NUMBER: 88:89714
TITLE: 2-Arylpiperazine derivatives
INVENTOR(S): Kato, Hideo; Koshinaka, Eiichi; Ogawa, Nobuo
PATENT ASSIGNEE(S): Hokuriku Pharmaceutical Co., Ltd., Japan
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2718451	A1	19771201	DE 1977-2718451	19770426
JP 52139085	A2	19771119	JP 1976-53865	19760513
JP 56027508	B4	19810625		
US 4166180	A	19790828	US 1977-795869	19770511
GB 1519747	A	19780802	GB 1977-20028	19770512
FR 2351108	A1	19771209	FR 1977-14800	19770513
FR 2351108	B1	19800118		

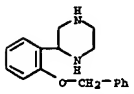
PRIORITY APPLN. INFO.: JP 1976-53865 A 19760513
GI

I

AB Arylpiperazines I (R = Ph, optionally substituted by 1-3 halogen, lower alkyl or alkoxy, NO2, CN, OCH2Ph, or OH, methylenedioxyphenyl) were prepared Thus 3-PhCH2OC6H4Ac was oxidized with SeO2, 3-PhCH2OC6H4COCHO treated with H2NCH2CH2NH2 to give I (R = 3-PhCH2OC6H4), which was hydrogenated over Pd-C to give I (R = 3-HOC6H4). I had analgesic, vasodilator, and spasmolytic activity, as well as an effect on the circulation (no data).

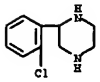
IT **65709-49-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and debenzylation of)

RN 65709-49-1 CAPLUS
CN Piperazine, 2-[2-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



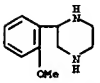
IT **65709-26-4P 65709-27-5P 65709-28-6P**
65709-50-4P 65709-59-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 65709-26-4 CAPLUS
CN Piperazine, 2-(2-chlorophenyl)-, dihydrochloride (9CI) (CA INDEX NAME)

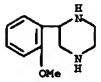


●2 HCl

RN 65709-27-5 CAPLUS
CN Piperazine, 2-(2-methoxyphenyl)- (9CI) (CA INDEX NAME)

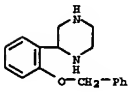


RN 65709-28-6 CAPLUS
CN Piperazine, 2-(2-methoxyphenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 65709-50-4 CAPLUS
CN Piperazine, 2-[2-(phenylmethoxy)phenyl]-, dihydrochloride (9CI) (CA INDEX NAME)

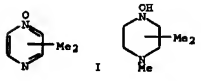


●2 HCl

RN 65709-59-3 CAPLUS
CN Phenol, 2-(2-piperazinyl)-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

L7 ANSWER 83 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1978:74373 CAPLUS
DOCUMENT NUMBER: 88:74373
TITLE: Quaternization of pyrazine monoxides, and reduction of 1-methyl-4-oxidopyrazinium iodides with sodium borohydride
AUTHOR(S): Ohta, Akihiro; Matsunaga, Mayumi; Iwata, Noriko; Watanabe, Tokuhiro
CORPORATE SOURCE: Tokyo Coll. Pharm., Tokyo, Japan
SOURCE: Heterocycles (1977), 6, 351-6
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 88:74373
GI

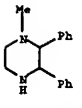


I II

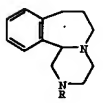
AB Dimethylpyrazine monoxides I (4 isomers) and 2,3-diphenylpyrazine 1-oxide were quaternized by treatment with MeI in a sealed tube for 2 h at 80°. 3-Phenyl-, 2,5-diphenyl-, and 3,5-diphenylpyrazine 1-oxides could not be quaternized. Reduction of the oxidopyrazinium iodides with NaBH4 gave the corresponding 1-hydroxypiperazines, e.g., II.

IT **65464-26-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 65464-26-8 CAPLUS
CN Piperazine, 1-methyl-2,3-diphenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 84 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1977:453214 CAPLUS
DOCUMENT NUMBER: 87:53214
TITLE: Agents acting on the central nervous system: Part XXV. 2-Substituted 1,2,3,4,6,7,8,12b-octahydropyrazino[2,1-a][2]benzazepines
AUTHOR(S): Dixit, V. M.; Khanna, J. M.; Anand, Nitya
CORPORATE SOURCE: Med. Chem. Div., Cent. Drug Res. Inst., Lucknow, India
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1976), 14B(11), 874-8
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 87:53214
GI

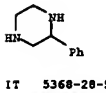


I

AB 3-Oxo-2-phenylpiperazine was treated with BrCH2CH2COCl and the 1-(3-bromopropionyl)-3-oxo-2-phenylpiperazine cyclized with AlCl3 followed by LiAlH4 reduction to give the pyrazinobenzazepine I (R = H), which was alkylated to give I [R = PhCH2CH2, PhCH(OH)CH2, 4-pyridylethyl, p-FC6H4CO(CH2)3, CH2CN, MeCO(CH2)2, 4,5-dihydro-2-imidazolylmethyl]. I (R = H) had trans stereochem.

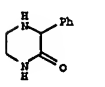
IT **5271-26-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with ethyl bromide)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



IT **5368-28-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bromopropionyl chloride)

RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)



L7 ANSWER 85 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:433052 CAPLUS

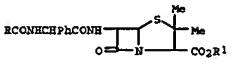
DOCUMENT NUMBER: 85:33052
TITLE: Penicillin and cephalosporin derivatives
INVENTOR(S): Saikawa, Isamu; Takano, Shuntaro; Yoshida, Chosaku; Takashima, Okuta; Moromoi, Kaishu; Kuroda, Seietsu; Komatsu, Miwako; Yasuda, Takashi; Kodama, Yutaka
PATENT ASSIGNEE(S): Toyama Chemical Co., Ltd., Japan
SOURCE: Ger. Offen., 237 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2519400	A1	19760304	DE 1975-2519400	19750430
DE 2519400	B2	19810521		
DE 2519400	C3	19820211		
JP 50148378	A2	19751127	JP 1974-50663	19740509
JP 50148380	A2	19751127	JP 1974-52254	19740513
JP 50151091	A2	19751206	JP 1974-60787	19740531
JP 51023284	A2	19760224	JP 1974-91996	19740813
JP 51039687	A2	19760402	JP 1974-109954	19740926
JP 51070788	A2	19760618	JP 1974-142499	19741213
JP 51113890	A2	19761007	JP 1975-37207	19750327
AT 7608289	A	19771215	AT 1976-8289	19761108
ES 454266	A1	19771216	ES 1976-454266	19761215
ES 454267	A1	19771216	ES 1976-454267	19761215
US 4379152	A	19830405	US 1979-39904	19790517

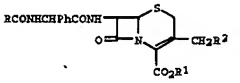
PRIORITY APPLN. INFO.:

JP 1974-50663	A	19740509
JP 1974-52254	A	19740513
JP 1974-60787	A	19740531
JP 1974-91996	A	19740813
JP 1974-109954	A	19740926
JP 1974-142499	A	19741213
JP 1975-37207	A	19750327
AT 1975-3511	A	19750507
US 1976-654060	A3	19760130
US 1978-915873	A3	19780615

GI



I



II

AB Acylaminobenzylpenams I and -cephems II (R = substituted oxopiperazino; R1 = H, Na, ester; R2 = H, OAc, heterocyclic thiol) (164 compds.) were prepared by acylating aminobenzylpenams and -cephems. Thus 1-acetyl-3-oxopiperazine was treated with COCl2 and used to acylate ampicillin to I (R = 4-acetyl-2-oxopiperazino, R1 = Na).

IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosgene)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 86 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:421459 CAPLUS
DOCUMENT NUMBER: 85:21459
TITLE: The 2- or 3-keto-3- or -2-phenyl-1,4-disubstituted piperazines
INVENTOR(S): Zellner, Hugo
PATENT ASSIGNEE(S): Donau-Pharmazie G.m.b.H., Austria
SOURCE: U.S., 29 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3935214	A	19760127	US 1973-333497	19730220
AT 284127	B	19700910	AT 1968-7306	19680726
US 4012389	A	19770315	US 1975-627690	19751031

PRIORITY APPLN. INFO.:

AT 1968-7306	A	19680726
US 1969-848395	A2	19690723
US 1973-333497	A3	19730220

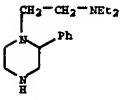
GI

I

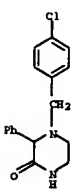
AB The piperazines I [R = Et2NCH2CH2, 2-piperidinoethyl, bis(morpholinomethyl)methyl, 4-MeOC6H4CH2, ClCH2CH2, 2-morpholinoethyl, etc.; R1 4-ClC6H4CH2, 2,4-Cl2C6H3CH2, 4-MeOC6H4CH2CH2, Ph(CH2)3, Et2NCH2CH2, 4-EtOC6H4CH2, etc.; X = O, H2] were prepared by alkylation of piperazine derivs. Thus, 2-phenyl-3-oxopiperazine was treated with 4-ClC6H4CH2Cl to give I (R = H, R1 = 4-ClC6H4CH2, X = O), which was treated with Et2NCH2CH2Cl to give I (R = Et2NCH2CH2, R1 = 4-ClC6H4CH2, X = O) (II). At 1 mM I had a blood coagulation promoting effect and at 5 mM had a blood coagulation inhibiting effect.

IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylation of)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

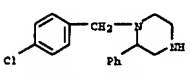
IT 26921-23-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and alkylation of)
RN 26921-23-3 CAPLUS
CN 1-Piperazineethanamine, N,N-diethyl-2-phenyl- (9CI) (CA INDEX NAME)



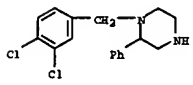
IT 26840-79-9P 26840-82-4P 26840-87-9P
26840-93-7P 26840-97-1P 59622-60-5P
59622-61-6P 59622-62-7P 59622-77-4P
59622-82-1P 59622-88-7P 59622-90-1P
59622-94-5P 59622-98-9P 59623-00-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and aminoalkylation of)
RN 26840-79-9 CAPLUS
CN Piperazinone, 4-[(4-chlorophenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)



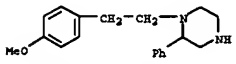
RN 26840-82-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)



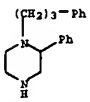
RN 26840-87-9 CAPLUS
CN Piperazine, 1-[(3,4-dichlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)



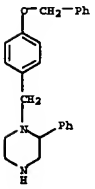
RN 26840-93-7 CAPLUS
CN Piperazine, 1-[2-(4-methoxyphenyl)ethyl]-2-phenyl- (9CI) (CA INDEX NAME)



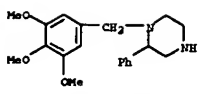
RN 26840-97-1 CAPLUS
CN Piperazine, 2-phenyl-1-(3-phenylpropyl)- (8CI, 9CI) (CA INDEX NAME)



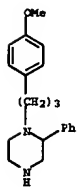
RN 59622-60-5 CAPLUS
CN Piperazine, 2-phenyl-1-[[4-(phenylmethoxy)phenyl]methyl]- (9CI) (CA INDEX NAME)



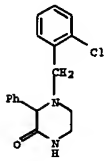
RN 59622-61-6 CAPLUS
CN Piperazine, 2-phenyl-1-[(3,4,5-trimethoxyphenyl)methyl]- (9CI) (CA INDEX NAME)



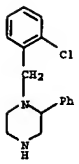
RN 59622-62-7 CAPLUS
CN Piperazine, 1-[3-(4-methoxyphenyl)propyl]-2-phenyl- (9CI) (CA INDEX NAME)



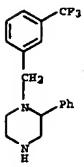
RN 59622-77-4 CAPLUS
CN Piperazinone, 4-[(2-chlorophenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)



RN 59622-82-1 CAPLUS
CN Piperazinone, 3-phenyl-4-[[3-(trifluoromethyl)phenyl]methyl]- (9CI) (CA INDEX NAME)

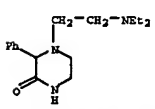


RN 59622-98-9 CAPLUS
CN Piperazine, 1-[(2-chlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)

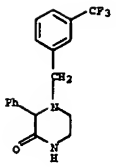


RN 59623-00-6 CAPLUS
CN Piperazine, 2-phenyl-1-[[3-(trifluoromethyl)phenyl]methyl]- (9CI) (CA INDEX NAME)

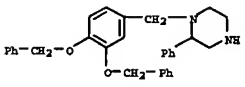
IT 26840-81-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of)
RN 26840-81-3 CAPLUS
CN Piperazinone, 4-[2-(diethylamino)ethyl]-3-phenyl- (8CI, 9CI) (CA INDEX NAME)



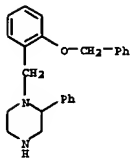
IT 26840-92-6P 26840-96-0P 59622-55-8P
59622-56-9P 59622-57-0P 59622-58-1P
59622-87-6P 59622-89-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)
RN 26840-92-6 CAPLUS
CN Piperazinone, 4-[2-(4-methoxyphenyl)ethyl]-3-phenyl- (9CI) (CA INDEX



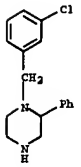
RN 59622-88-7 CAPLUS
CN Piperazine, 1-[[3,4-bis(phenylmethoxy)phenyl]methyl]-2-phenyl- (9CI) (CA INDEX NAME)



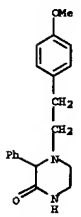
RN 59622-90-1 CAPLUS
CN Piperazine, 2-phenyl-1-[[2-(phenylmethoxy)phenyl]methyl]- (9CI) (CA INDEX NAME)



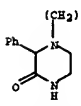
RN 59622-94-5 CAPLUS
CN Piperazine, 1-[(3-chlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)



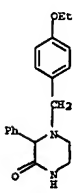
NAME)



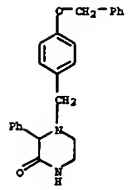
RN 26840-96-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(3-phenylpropyl)- (8CI, 9CI) (CA INDEX NAME)



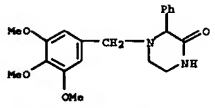
RN 59622-55-8 CAPLUS
CN Piperazinone, 4-[(4-ethoxyphenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)



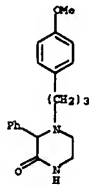
RN 59622-56-9 CAPLUS
CN Piperazinone, 3-phenyl-4-[[4-(phenylmethoxy)phenyl]methyl]- (9CI) (CA INDEX NAME)



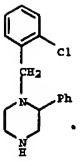
RN 59622-57-0 CAPLUS
CN Piperazinone, 3-phenyl-4-[(3,4,5-trimethoxyphenyl)methyl]- (9CI) (CA INDEX NAME)



RN 59622-58-1 CAPLUS
CN Piperazinone, 4-[3-(4-methoxyphenyl)propyl]-3-phenyl- (9CI) (CA INDEX NAME)

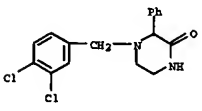


RN 59622-87-6 CAPLUS
CN Piperazinone, 4-[[3,4-bis(phenylmethoxy)phenyl]methyl]-3-phenyl- (9CI) (CA INDEX NAME)

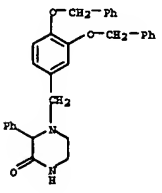


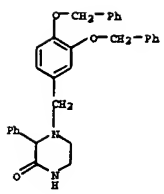
●x HCl

IT 26840-86-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation reduction of)
RN 26840-86-8 CAPLUS
CN Piperazinone, 4-[(3,4-dichlorophenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)

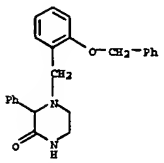


IT 59622-87-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)
RN 59622-87-6 CAPLUS
CN Piperazinone, 4-[[3,4-bis(phenylmethoxy)phenyl]methyl]-3-phenyl- (9CI) (CA INDEX NAME)

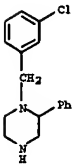




RN 59622-89-8 CAPLUS
CN Piperazinone, 3-phenyl-4-[[2-(phenylmethoxy)phenyl]methyl]- (9CI) (CA INDEX NAME)



IT 59622-95-6P 59622-97-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 59622-95-6 CAPLUS
CN Piperazine, 1-[(3-chlorophenyl)methyl]-2-phenyl-, hydrochloride (9CI) (CA INDEX NAME)



●x HCl

RN 59622-97-8 CAPLUS
CN Piperazine, 1-[(2-chlorophenyl)methyl]-2-phenyl-, hydrochloride (9CI) (CA

L7 ANSWER 87 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:4904 CAPLUS
DOCUMENT NUMBER: 84:4904
TITLE: N-Alkylation of secondary amines with esters and lithium alanate (lithium aluminum hydride)
AUTHOR(S): Khanna, J. M.; Dixit, V. M.; Anand, Nitya
CORPORATE SOURCE: Med. Chem. Div., Cent. Drug Res. Inst., Lucknow, India
SOURCE: Synthesis (1975), (9), 607-8
CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 84:4904
AB 1-Phenyl-, 2-phenyl-, 1-methylpiperazine, piperidine, and PhCH2NHMe were N-alkylated by reaction with RCO2Et (R = H, Me, Et) and LiAlH4 in THF or ether. Thus, reaction of 1-phenylpiperazine with HCO2Et and LiAlH4 gave 4-methyl-1-phenylpiperazine in 90% yield. 2-Phenylpiperazine with AcOEt and LiAlH4 gave 80% 4-ethyl-2-phenylpiperazine. A mechanism, involving initial carboxamide formation and its LiAlH4 reduction to the tertiary amine, was suggested.
IT 5271-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-ethylation of, with ethyl acetate and lithium aluminum hydride)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

IT 5368-28-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methyl or ethyl acetate and lithium aluminum hydride)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 88 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:428282 CAPLUS
DOCUMENT NUMBER: 83:28282
TITLE: 1-Adamantylcarbonyl-3,3-diphenylpiperazines
INVENTOR(S): Freed, Meier E.; Childress, Scott J.
PATENT ASSIGNEE(S): American Home Products Corp., USA
SOURCE: U.S., 9 pp. Division of U.S. 3,749,725 (CA 79;105296k).
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 3869460	A	19750304	US 1973-347940	19730404
US 3749725	A	19730731	US 1971-161322	19710709
PRIORITY APPLN. INFO.:			US 1971-161322	A3 19710709
			US 1960-786367	A3 19601223

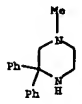
GI For diagram(s), see printed CA Issue.

AB Piperazines (I, R = 1-adamantylcarbonyl, alkyl, aminoalkyl, alkanoyl, phenylalkyl etc. X = O, H2) were prepared Thus, 2,2-diphenylpiperazine was refluxed with 1-adamantanecarbonyl chloride in Me2CO-Et3N to give I (R = 1-adamantanecarbonyl, X = H2). I were mydriatic agents when tested in mice at 4-400 mg/kg.

IT **35676-88-1P 41353-93-9P 49662-87-5P 49662-90-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 35676-88-1 CAPLUS

CN Piperazine, 1-methyl-3,3-diphenyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

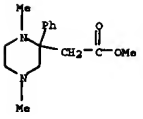
RN 49662-87-5 CAPLUS

CN Piperazine, 2,2-diphenyl-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

RN 49662-90-0 CAPLUS

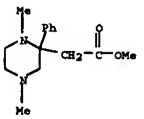
CN Piperazine, 1-methyl-3,3-diphenyl- (9CI) (CA INDEX NAME)



●2 HCl

RN 51212-12-5 CAPLUS

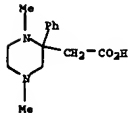
CN 2-Piperazineacetic acid, 1,4-dimethyl-2-phenyl-, methyl ester, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 51212-17-0 CAPLUS

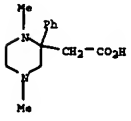
CN 2-Piperazineacetic acid, 1,4-dimethyl-2-phenyl-, dihydrochloride (9CI) (CA INDEX NAME)

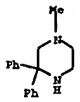


●2 HCl

RN 51271-01-3 CAPLUS

CN 2-Piperazineacetic acid, 1,4-dimethyl-2-phenyl- (9CI) (CA INDEX NAME)





IT **22476-76-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction and reaction of, with dimethylaminopropyl chloride)

RN 22476-76-2 CAPLUS

CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

L7 ANSWER 89 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1974:425642 CAPLUS
DOCUMENT NUMBER:	81:25642
TITLE:	Synthesis of aryl-substituted 1,3- and 1,4-diazocine derivatives
AUTHOR(S):	Sarges, Reinhard; Tretter, James R.
CORPORATE SOURCE:	Cent. Res., Pfizer Inc., Groton, CT, USA.
SOURCE:	Journal of Organic Chemistry (1974), 39(12), 1710-16 CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 81:25642

GI For diagram(s), see printed CA Issue.

AB The synthesis of aryl-substituted 1,3- and 1,4-diazocine derivs. was undertaken because their structural features suggested potential central nervous system activity. Reaction of Me β-(bromomethyl)cinnamate with N,N'-dimethylethylene-diamine gave Me N,N'-dimethyl-2-phenylpiperazine-2-acetate which was converted to 1,4-dimethyl-7-phenyl-1,2,3,4-tetrahydro-1,4-diazocin-5(6H)-one (I). Catalytic and hydride reduction of I led ultimately to the 6-phenylperhydro-1,4-diazocine (II). Conversion of trans-3-phenylproline to III followed by desulfurization and quaternization with MeI gave the bicyclic intermediate IV, which on treatment with NaH or Li-NH3 underwent transannular ring opening to give 1,3-dimethyl-6-phenyl-1,2,3,7-tetrahydro-1,3-diazocin-4(6H)-one (V) and its perhydro analog, resp. Reaction of IV with NaOMe or with NaBH4 led to peripheral ring cleavage giving N-methyl-3-phenylproline methyl ester and the corresponding alc., resp.

IT **51212-11-4P 51212-12-5P 51212-17-0P 51271-01-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 51212-11-4 CAPLUS

CN 2-Piperazineacetic acid, 1,4-dimethyl-2-phenyl-, methyl ester (9CI) (CA INDEX NAME)

L7 ANSWER 90 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1974:425574 CAPLUS
DOCUMENT NUMBER:	81:25574
TITLE:	3-(1,2,3,4-Tetrahydroisoquinolinemethyl)-3-quinuclidinol and related compounds
INVENTOR(S):	Potoski, John R.; Freed, Meier E.
PATENT ASSIGNEE(S):	American Home Products Corp.
SOURCE:	U.S., 8 pp. Division of U.S. 3,725,410 (CA 79;5367r). CODEN: USXXAM
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3792053	A	19740212	US 1972-278663	19720807
US 3725410	A	19730403	US 1970-55264	19700715
PRIORITY APPLN. INFO.:			US 1970-55264	A 19700715

GI For diagram(s), see printed CA Issue.

AB Ten quinuclidinols I (R = 4-phenyl-1-piperazinyl, 3,3-diphenyl-1-piperazinyl, 4-phenylpiperidino, Et2N, morpholino, 1,2,3,4-tetrahydro-2-isoquinolinyl, etc.) were prepared by treating 3-methylenequinuclidine oxide (II) with amines. II was prepared from 3-quinuclidinone and trimethylsulfoxonium iodide. At 4-400 mg/kg I decreased the motor activity of mice. At 10 ml/kg I reduced carrageenin induced by edema by 23%.

IT **41353-93-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with 3-methylenequinuclidine oxide)

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 91 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1974:70721 CAPLUS
DOCUMENT NUMBER:	80:70721
TITLE:	3-[(3-Azaspiro[5,5]undecino)methyl]-3-quinuclidinol
INVENTOR(S):	Potoski, John R.; Freed, Meier E.
PATENT ASSIGNEE(S):	American Home Products Corp.
SOURCE:	U.S., 8 pp. Division of U.S. 3,725,410 (CA 79;5367r). CODEN: USXXAM
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3775410	A	19731127	US 1972-278664	19720807
US 3725410	A	19730403	US 1970-55264	19700715
PRIORITY APPLN. INFO.:			US 1970-55264	A3 19700715

GI For diagram(s), see printed CA Issue.

AB Central depressant and antiinflammatory quinuclidinol derivs. I (NRR1 = 4-phenyl-1-piperazinyl, 3,3-diphenyl-1-piperazinyl, 4-phenylpiperidino, 4,4-spiropentamethylenepiperidino, 1,2,3,4-tetrahydro-1-isoquinolinyl, NEt2, NEtCH2CH2NEt2, morpholino) were prepared by treating 3-quinuclidinone with Me2S(O)Me+I- and NaH and treating the resulting spirooxiranequinuclidine with the amine.

IT 41353-93-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with spirooxiranequinuclidine)

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 92 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:70719 CAPLUS

DOCUMENT NUMBER: 80:70719

TITLE: 3-Methylenequinuclidine oxide

INVENTOR(S): Potoski, John R.; Freed, Meier E.

PATENT ASSIGNEE(S): American Home Products Corp.

SOURCE: U.S., 8 pp. Division of U.S. 3,725,410 (CA 79;5367r).
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3775419	A	19731127	US 1972-278690	19720807
US 3725410	A	19730403	US 1970-55264	19700715
PRIORITY APPLN. INFO.:			US 1970-55264	A3 19700715

GI For diagram(s), see printed CA Issue.

AB The spirooxiranequinuclidine I was prepared by treating 3-quinuclidinone with Me3S(O)+I- and NaH. It is an intermediate for the central depressant and antiinflammatory quinuclidinols II (NRR1 = 4-phenyl-1-piperazinyl, 3,3-diphenyl-1-piperazinyl, 4-phenylpiperidino, 4,4-spiropentamethylenepiperidino, 1,2,3,4-tetrahydro-1-isoquinolinyl, NEt2, NEtCH2CH2NEt2, morpholino), which were prepared by treating I with RR1NH.

IT 41353-93-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with spirooxiranequinuclidine)

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 93 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

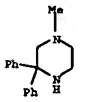
RN 49662-87-5 CAPLUS

CN Piperazine, 2,2-diphenyl-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

RN 49662-90-0 CAPLUS

CN Piperazine, 1-methyl-3,3-diphenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 94 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1973:405367 CAPLUS

DOCUMENT NUMBER: 79:5367

TITLE: 3-(Aminomethyl)-3-quinuclidinols

INVENTOR(S): Potoski, John R.; Freed, Meier E.

PATENT ASSIGNEE(S): American Home Products Corp.

SOURCE: U.S., 11 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3725410	A	19730403	US 1970-55264	19700715
US 3775418	A	19731127	US 1972-278664	19720807
US 3775419	A	19731127	US 1972-278690	19720807
US 3792053	A	19740212	US 1972-278663	19720807
PRIORITY APPLN. INFO.:			US 1970-55264	A3 19700715

GI For diagram(s), see printed CA Issue.

AB Quinuclidinols (I) with central nervous system-depressant and antiinflammatory properties are prepared by reaction of 3-methylenequinuclidine oxide (II) with heterocyclic and alkyl amines. Thus, a mixture of II and N-phenylpiperazine is heated overnight to yield I

ACCESSION NUMBER: 1973:505296 CAPLUS

DOCUMENT NUMBER: 79:105296

TITLE: Substituted 2,2-diphenylpiperazines and 3,3-diphenyl-2-piperazinones

INVENTOR(S): Freed, Meier E.; Childress, Scott J.

PATENT ASSIGNEE(S): American Home Products Corp.

SOURCE: U.S., 7 pp. Division of U.S. 3,631,047 (CA 76;99713p).
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3749725	A	19730731	US 1971-161322	19710709
US 3631047	A	19711228	US 1968-786367	19681223
US 3869460	A	19750304	US 1973-347940	19730404
PRIORITY APPLN. INFO.:			US 1968-786367	A3 19681223
			US 1971-161322	A3 19710709

GI For diagram(s), see printed CA Issue.

AB 2,2-Diphenylpiperazines I, R = e.g., H, CO2Et, Me, CH2CH2Ph, (CH2)3NMe2; X = H2, O useful as sympathomimetic agents were prepared by alkylating or acylating 2,2-diphenylpiperazine or 3,3-diphenyl-2-piperazinone, optionally followed by reduction Thus, I (R = H, X = H2) was treated with ClCO2Et in Et3N to give I (R = CO2Et, X = H2). This on reduction with LiAlH4 in THF gave I (R = Me, X = H2).

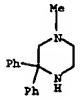
IT 22476-76-2P 35676-88-1P 41353-93-9P
49662-87-5P 49662-90-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 22476-76-2 CAPLUS

CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

RN 35676-88-1 CAPLUS

CN Piperazine, 1-methyl-3,3-diphenyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

(R = 4-phenylpiperazino). Also prepared are I (R = 3,3-diphenylpiperazino, 4-phenylpiperidino, Et2N, morpholino) and 3 addnl. compds.

IT 41353-93-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methylenequinuclidine oxide)

RN 41353-93-9 CAPLUS

CN Piperazine, 2,2-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 95 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972:99713 CAPLUS

DOCUMENT NUMBER: 76:99713

TITLE: Substituted 3,3-diphenylpiperazines and 3,3-diphenylpiperazin-2-ones

INVENTOR(S): Freed, Meier E.; Childress, Scott J.

PATENT ASSIGNEE(S): American Home Products Corp.

SOURCE: U.S., 7 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3631047	A	19711228	US 1968-786367	19681223
US 3749725	A	19730731	US 1971-161322	19710709
PRIORITY APPLN. INFO.:			US 1968-786367	A3 19681223

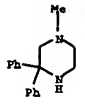
GI For diagram(s), see printed CA Issue.

AB The title compds. (I), effective sympathomimetic agents at 4-127 mg/kg in mice, were prepared by alkylation, acylation, and reduction Thus, a mixture of I (R = H, R1 = 2H, Ar = Ph) (II), Ph(CH2)2Br, and Et3N in PhMe was refluxed 24 hr to give I [R = Ph(CH2)2, R1 = 2H, Ar = Ph]. The 2-oxo derivative (I, R = H, R1 = O, Ar = Ph) (III) was alkylated with alkyl chloride in NaH-DMF. II was acylated with ClCO2Et and Et3N in Et2O to give I (R = EtO2C, R1 = 2H, Ar = Ph), which was reduced with LiAlH4 to I (R = Me, R1 = 2H, Ar = Ph). III was also reduced with LiAlH4 to give II. Approx. 106 compds. were prepared

IT 35676-86-9P 35676-88-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

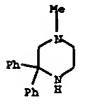
RN 35676-86-9 CAPLUS

CN Piperazine, 1-methyl-3,3-diphenyl-, dihydrochloride (9CI) (CA INDEX NAME)



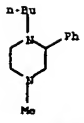
● 2 HCl

RN 35676-88-1 CAPLUS
CN Piperazine, 1-methyl-3,3-diphenyl-, monohydrochloride (9CI) (CA INDEX NAME)

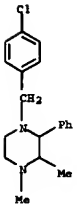


● HCl

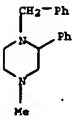
L7 ANSWER 96 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1971:74701 CAPLUS
DOCUMENT NUMBER: 74:74701
TITLE: Piperazine compounds. VI. Antihistaminic and anticholinergic effects of 2-phenylpiperazine derivatives
AUTHOR(S): Ikeda, Yoshiaki; Nitta, Yoshihiro; Hirano, Isayo; Noda, Kuniko; Yamada, Kiyoshi
CORPORATE SOURCE: Re. Lab., Chugai Pharm. Co., Ltd., Tokyo, Japan
SOURCE: Yakugaku Zasshi (1970), 90(11), 1452-6
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
GI For diagram(s), see printed CA Issue.
AB 1-(p-Chlorobenzyl)-2-phenyl-4-methylpiperazine (I) exhibited the most potent antihistaminic activity among 11 2-phenylpiperazines when tested in guinea pig ileum; the activity of I was less potent by a factor of .apprx.10 than that of diphenylamine and cyclizine. Anticholinergic activity of I was not significant.
IT 22287-90-7 22287-93-0 23174-98-3
23174-99-4 23175-00-0 23175-14-6
RL: PROC (Process)
(antihistaminic action of)
RN 22287-90-7 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl- (8CI, 9CI) (CA INDEX NAME)



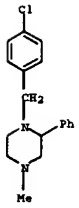
RN 22287-93-0 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-3,4-dimethyl-2-phenyl- (9CI) (CA INDEX NAME)



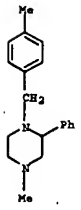
RN 23174-98-3 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



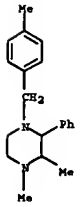
RN 23174-99-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)



RN 23175-00-0 CAPLUS
CN Piperazine, 4-methyl-1-(p-methylbenzyl)-2-phenyl- (8CI) (CA INDEX NAME)



RN 23175-14-6 CAPLUS
CN Piperazine, 1,2-dimethyl-4-(p-methylbenzyl)-3-phenyl- (8CI) (CA INDEX NAME)

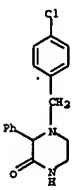


L7 ANSWER 97 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1970:100750 CAPLUS

DOCUMENT NUMBER: 72:100750
TITLE: 1,4-Subetituted phenylpiperazines
INVENTOR(S): Zellner, Hugo; Zellner, Gertraud
PATENT ASSIGNEE(S): Donau-Pharmazie G.m.b.H.
SOURCE: Ger. Offen., 28 pp.
CODEN: GWXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

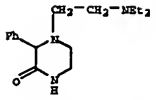
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1937811	A	19700129	DE 1969-1937811	19690725
AT 284127	B	19700910	AT 1968-7306	19680726
CH 520693	A	19720331	CH 1969-520693	19690718
CH 537936	A	19730721	CH 1971-15824	19690718
CH 540268	A	19730928	CH 1971-15823	19690718
BE 736520	A	19691231	BE 1969-736520	19690724
GB 1266780	A	19720315	GB 1969-1266780	19690724
NL 6911484	A	19700128	NL 1969-11484	19690725
FR 2013813	A5	19700410	FR 1969-25493	19690725
DK 121955	B	19711227	DK 1969-4054	19690725
SE 355364	B	19730416	SE 1969-10551	19690725
CA 963904	A1	19750304	CA 1969-57953	19690725

PRIORITY APPLN. INFO.: AT 1968-7306 A 19680726
GI For diagram(s), see printed CA Issue.
AB The title compds. (I) blood anticoagulants, are prepared Thus, 175 g of 2-phenyl-3-oxopiperazine is treated with 177 g p-chlorobenzyl chloride and 420 ml Et3N in 2 l. Me2CO under reflux to give 65% 1-(4-chlorobenzyl)-2-phenyl-3-oxopiperazine (II) m. 175°. A mixture of 60 g II, 40 g Et2NCH2CH2Cl, and 40 g K2CO3 in 400 ml PhMe is refluxed 10 hr to give 90% 1-(4-chlorobenzyl)-2-phenyl-3-oxo-4-(diethylaminoethyl)piperazine, b0.03 212°, which with LiAlH4 gave 1-(4-chlorobenzyl)-2-phenyl-4-(diethylaminoethyl)piperazine, m. 103-4°. About 10 similar examples are given with their intermediates.
IT 26840-79-9P 26840-81-3P 26840-82-4P
26840-86-8P 26840-87-9P 26840-92-6P
26840-93-7P 26840-96-0P 26840-97-1P
26921-23-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 26840-79-9 CAPLUS
CN Piperazinone, 4-[(4-chlorophenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)

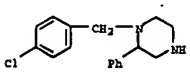


RN 26840-81-3 CAPLUS
CN Piperazinone, 4-[2-(diethylamino)ethyl]-3-phenyl- (8CI, 9CI) (CA INDEX

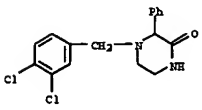
NAME)



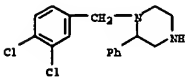
RN 26840-82-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)



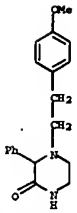
RN 26840-86-8 CAPLUS
CN Piperazinone, 4-[(3,4-dichlorophenyl)methyl]-3-phenyl- (9CI) (CA INDEX NAME)



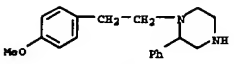
RN 26840-87-9 CAPLUS
CN Piperazine, 1-[(3,4-dichlorophenyl)methyl]-2-phenyl- (9CI) (CA INDEX NAME)



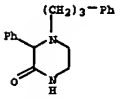
RN 26840-92-6 CAPLUS
CN Piperazinone, 4-[2-(4-methoxyphenyl)ethyl]-3-phenyl- (9CI) (CA INDEX NAME)



RN 26840-93-7 CAPLUS
CN Piperazine, 1-[2-(4-methoxyphenyl)ethyl]-2-phenyl- (9CI) (CA INDEX NAME)

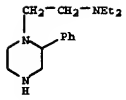


RN 26840-96-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(3-phenylpropyl)- (8CI, 9CI) (CA INDEX NAME)



RN 26840-97-1 CAPLUS
CN Piperazine, 2-phenyl-1-(3-phenylpropyl)- (8CI, 9CI) (CA INDEX NAME)

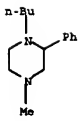
RN 26921-23-3 CAPLUS
CN 1-Piperazineethanamine, N,N-diethyl-2-phenyl- (9CI) (CA INDEX NAME)



L7 ANSWER 98 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1969:512975 CAPLUS
DOCUMENT NUMBER: 71:112975
TITLE: Piperazine derivatives and their salts
INVENTOR(S): Nitta, Yoshihiro; Ikeda, Yoshiaki; Furue, Toshiyuki; Shioya, Akitoshi; Kanno, Shigeru; Shiraki, Yasuyuki
PATENT ASSIGNEE(S): Chugai Pharmaceutical Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 8 pp.
CODEN: JAKYAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

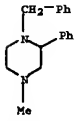
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 44017388	B4	19690731	JP	19670629

GI For diagram(s), see printed CA Issue.
AB Manufacture of I, useful as coronary vasodilators and sedatives, is described. Thus, 9.3 g. ethylene oxide is introduced into 40 g. 1-phenyl-1-hydroxy-2-(benzylamino)ethane in 35 ml. MeOH to give 31.8 g. α-[N-benzyl(2-hydroxyethyl)aminomethyl]benzyl alc. (II), b1 191-3°; HCl salt m. 147-9°. II.HCl (16 g.) is heated with 65 ml. SOCl2 to give 10.5 g. 1-chloro-1-phenyl-2-[N-benzyl(2-chloroethyl)amino]ethane (III), b1 163-6°; picrate m. 195-8° (decomposition). III (2 g.) in 6 ml. EtOH is refluxed with 2.75 g. p-ClC6H4CH2N h2 to give 1.6 g. I (R1 = p-ClC6H4CH2, R2 = PhCH2), m. 102-3° (ligroine-C6H6). Similarly prepared are the following I (R1, R2, and m.p. given): p-MeC6H4CH2, PhCH2, 104-6°; 2-pyridyl, PhCH2, 86-8°; 5,2-Me(MeO)C6H3, Me, 102-4°; p-ClC6H4-CH2, Me, 82-3°; 2-pyridyl, Me, 65-6°; p-methylbenzyl, Me, 64-6°; p-tolyl, Me, 85-7°; Bu, Me, - (HCl salt m. 235-7°); PhCH2, Me, 83-5°; Ph, Me, 51-2°; p-methylben zyl, Et, - (HCl salt m. 183-5°); p-ClC6H4CH2, Et, - (HCl salt m. 233-5°); p-tolyl, Et, - (HCl salt m. 192-4°); 2-pyridyl, Et, 74-5°.
IT 23174-95-0P 23174-98-3P 23174-99-4P
23175-00-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 23174-95-0 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

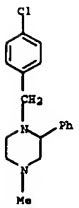


●2 HCl

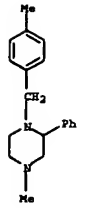
RN 23174-98-3 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 23174-99-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)



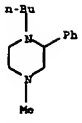
RN 23175-00-0 CAPLUS
CN Piperazine, 4-methyl-1-(p-methylbenzyl)-2-phenyl- (8CI) (CA INDEX NAME)



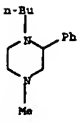
L7 ANSWER 99 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1969:501885 CAPLUS
DOCUMENT NUMBER: 71:101885
TITLE: Piperazine derivatives and their salts
INVENTOR(S): Nitta, Yoshihiro; Ikeda, Yoshiaki; Furue, Toshiyuki; Shioya, Akitoshi; Kanno, Shigeru; Shiraki, Yasuyuki
PATENT ASSIGNEE(S): Chugai Pharmaceutical Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 7 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 44018306	B4	19690811	JP	19670728
DE 1770743			DE	
FR 1571194			FR	
GB 1181322			GB	
US 3663548		19720000	US	

GI For diagram(s), see printed CA Issue.
AB Manufacture of I, useful as a coronary vasodilator, is described. In an example, a mixture of 4.2 g. L-(+)-threo-1-(p-chlorobenzylamino)-1-phenyl-2-methylaminopropane, 2.75 g. 1,2-dibromoethane, and 2.4 g. NaOAc is heated at 120° 4 hrs., cooled, made strongly alkaline with 10% NaOH, and extracted with C6H6 to give 3.5 g. L-(+)-I (R1 = p-chlorobenzyl, R2 = R3 = Me), b0.5 150-2°, m. 90-2° (petroleum ether). Similarly prepared are the following I (R1, R2, R3, b.p., and m.p. given): p-chlorobenzyl, H, Me, b1 179-81°, 82-3°; benzyl, H, Me, b1 149-51°, 83-5°; p-methylphenyl, H, Et, b1 137-40°, - (hydrochloride m. 192-4°); p-chlorobenzyl, H, benzyl, - 102-3°, 2-methoxy-5-methylphenyl, H, Me, b1 166-7, 102-4°; Bu, H, Me, b6 124-5°, - (hydrochloride m. 235-7°); 2-pyridyl, H, Me, b1 155-7°, 65-6°; p-methylbenzyl, H, benzyl, - 104-6°.
IT 22287-90-7P 23174-95-0P 23174-98-3P
23174-99-4P 24160-12-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 22287-90-7 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl- (8CI, 9CI) (CA INDEX NAME)

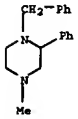


RN 23174-95-0 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

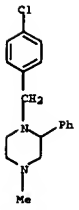


●2 HCl

RN 23174-98-3 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)

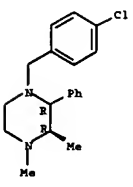


RN 23174-99-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)

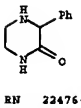


RN 24160-12-1 CAPLUS
CN Piperazine, 1-(p-chlorobenzyl)-3,4-dimethyl-2-phenyl-, trans-(+)- (8CI) (CA INDEX NAME)

Rotation (+). Absolute stereochemistry unknown.

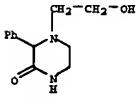


L7 ANSWER 100 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1969:491427 CAPLUS
DOCUMENT NUMBER: 71:91427
TITLE: N-Monoalkylation of some 2-oxo- and 2,5-dioxopiperazines
AUTHOR(S): Sut, Mrs. A.; Podesta, Mrs. M.; Lattes, M. A.
CORPORATE SOURCE: Lab. Petroleochim., Nouv. Fac. Sci., Toulouse, Fr.
SOURCE: Chimica Therapeutica (1969), 4(3), 167-73
CODEN: CHTPBA; ISSN: 0009-4374
DOCUMENT TYPE: Journal
LANGUAGE: French
GI For diagram(s), see printed CA Issue.
AB 3,3-Diphenyl-2-oxopiperazine was heated with ethylene oxide and water at 120° 16 hrs. to give 3,3-diphenyl-4-(2-hydroxyethyl)-2-oxopiperazine, m. 172°. 3-Phenyl-4-(2-hydroxyethyl)-2-oxopiperazine, m. 99°, was similarly prepared Treatment of 3,3-dimethyl-2-oxopiperazine with ClCO2Et gave 3,3-dimethyl-4-ethoxycarbonyl-2-oxopiperazine, m. 150°, which on refluxing with Na and treatment with Ph-CH2Cl gave I (R = PhCH2), b3 180°, I (R = (CH2)2OAc), b3 150°, and I (R = Et), b3 120° were similarly prepared Acid hydrolysis of I gave HO2CCMe2NH(CH2)2NHR.2HCl (R and m.p. given): PhCH2, 230°; Et, 226°; HO(CH2)2, 190°. I (R = PhCH2) also gave 3,3-dimethyl-1-benzyl-2-oxopiperazine hydrochloride, m. 220°. Introduction of the hydroxyethyl group at the 4-position attenuated the anesthetic properties of 3,3-dimethyl-2-oxopiperazine, 3-phenyl-2-oxopiperazine, and 3,3-diphenyl-2-oxopiperazine while their analgesic properties were retained.
IT 5368-28-5P 22476-76-2P 23936-08-5P
23936-09-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

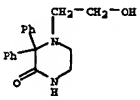


RN 22476-76-2 CAPLUS
CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

RN 23936-08-5 CAPLUS
CN Piperazinone, 4-(2-hydroxyethyl)-3-phenyl- (9CI) (CA INDEX NAME)

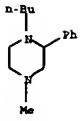


RN 23936-09-6 CAPLUS
CN 2-Piperazinone, 4-(2-hydroxyethyl)-3,3-diphenyl- (8CI) (CA INDEX NAME)

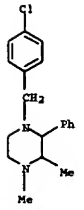


L7 ANSWER 101 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1969:461336 CAPLUS
DOCUMENT NUMBER: 71:61336
TITLE: Piperazine compounds. I. Syntheses and pharmacological actions of 2-phenylpiperazine derivatives
AUTHOR(S): Nitta, Yoshihiro; Ikeda, Yoshiaki; Shiraki, Yasuyuki

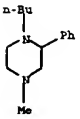
CORPORATE SOURCE: Res. Lab., Chugai Pharm. Co., Ltd., Tokyo, Japan
SOURCE: Yakugaku Zasshi (1969), 89(5), 660-8
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
GI For diagram(s), see printed CA Issue.
AB Various I are prepared as possible coronary vasodilators. Styrene oxide added with ice cooling to 3.5 moles aqueous R1NH2 and the mixture kept 5 days gave 36-44% PhCH(OH)CH2NHR1 (II) (R1, b.p./mm., and m.p. given): Me, 132-4°/10, 75-6°; Et, 121-4°/1, 77-80°; PhCH2, -, 103-4°. Ethylene oxide (0.36 mole) passed through 0.3 mole II or dl- or l-ephedrine in 30 ml. MeOH over 2 hrs. at 25 ± 3° and the mixture refluxed 1 hr. gave 63-84% PhCH(OH)CH(NR1CH2CH2OH)R (R, R1, b.p., and m.p. HCl salt given): H, Me, 179-82°/6, -; H, Et, 142-4°/1, -; H, PhCH2, 191-3°/1, 147-9°; Me, Me, 136-9°/1, 134-5° (l-isomer, m. 113-14°, [α]28D -15.79°). Reaction at 80° reduced the yield. The hydrochloride heated with excess SOCl2 40 min. at 50° gave 60-5% PhCHClCH(NR1CH2CH2Cl)R (III) (same data given): H, Me, 118-22°/1, 125-7°; H, Et, 110-13°/1, - (picrate m. 203-4°); H, PhCH2, 163-6°/1, - (picrate m. 195-8°); Me, Me, 135-7°/1, 150-1° [L-threo-isomer (IIIa), m. 163-6°, [A]23D 86.32°; base, b1 115-16°, with PCl5 in CHCl3]. R2NH2 (0.06 mole) added slowly to 0.02 mole III in 10 ml. EtOH caused boiling and the mixture refluxed 30 min. gave I (R, R1, R2, b.p./mm., m.p., and % yield given): H, Me, Bu, 124-5°/6, - (di-HCl salt semihydrate m. 235-7°), 70; H, Me, Ph, 139-41°/1.5, 51-2°, 64; H, Me, p-tolyl, 152-3°/1, 85-7°, 72; H, Me, 2,5-MeO(Me)C6H3, 166-7°/1, 102-4°, 69; H, Me, PhCH2, 153-4°/1.5, 83-5°, 66; H, Me, p-ClC6H4CH2, 179-81°/1, 82-3°, 69; H, Me, p-MeC6H4CH2, 143-4°/1.5, 64-5°, 69; H, Et, p-tolyl, 137-40°/1, - (HCl salt semihydrate m. 192-4°), 82; H, Et, p-ClC6H4CH2, 157-60°/1, - (HCl salt semihydrate m. 233-5°), 68; H, Et, p-MeC6H4CH2, 132-5°/1, - (HCl salt m. 163-5°), 66; H, PhCH2, p-ClC6H4CH2, -, 102-3°, 65; H, PhCH2, p-MeC6H4CH2, -, 104-6°, 69; Me, Me, 2,5-MeO-(Me)C6H3, 145-7°/1.5, - (dipicrate m. 207-8°, difumarate m. 184-5°), 48; Me, Me, p-ClC6H4CH2 (Ia), 163-4°/1.5, 86-7°, 71 (62-5% yield with 1:1 molar reactants in the presence of K2CO3 or Et3N); Me, Me, p-MeC6H4CH2, 132-6°/1, 92-3°, 48. NaNH2 (0.06 mole) in PhMe heated 1 hr. with 0.03 mole 2-aminopyridine and refluxed 5 hrs. with 0.03 mole II gave I (same data except R2 = 2-C5H4N): H, Me, 162-5°/1.8, 65-6°, 70; H, Et, 103-7°/1, 74-5°, 70; H, PhCH2, -, 86-8°, 62; Me, Me, 152-3°/1, - (dipicrate m. 125-8°), 43. Similarly, the following I (R = R1 = Me) were prepared with IIIa [R2, [α]23D (EtOH), b.p./mm., m.p., m.p. of dipicrate, and % yield given]: p-ClC6H4CH2 (Ib), 12.2°, 160-2°/0.5, 93.5-4.5°, -, 68; 2-C5H4N, 41.8°, 110-14°/0.5, -, 105-7°, 56. l-Ephedrine heated with PCl5 and the product refluxed 5 hrs. with p-ClC6H4-CH2NH2 gave 70% PhCH(NHCH2C6H4Cl-p)CH(NHMe)Me, b0.5 155-7° (HCl salt, m. 240-1°), [α]23D 11.87°, converted (72%) to Ib by heating 4 hrs. at 120° with BrCH2CH2Br and NaOAc. Ia and Ib were >5 times as effective as aminophylline for increasing the coronary and femoral blood flow in dogs. The structure-activity relations were discussed.
IT 22287-90-7P 22287-93-0P 23174-95-0P
23174-98-3P 23174-99-4P 23175-00-0P
23175-14-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 22287-90-7 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl- (8CI, 9CI) (CA INDEX NAME)



RN 22287-93-0 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-3,4-dimethyl-2-phenyl- (9CI) (CA INDEX NAME)

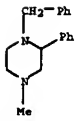


RN 23174-95-0 CAPLUS
CN Piperazine, 1-butyl-4-methyl-2-phenyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

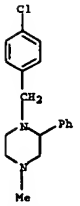


●2 HCl

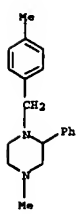
RN 23174-98-3 CAPLUS
CN Piperazine, 4-methyl-2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



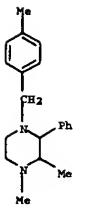
RN 23174-99-4 CAPLUS
CN Piperazine, 1-[(4-chlorophenyl)methyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)



RN 23175-00-0 CAPLUS
CN Piperazine, 4-methyl-1-(p-methylbenzyl)-2-phenyl- (8CI) (CA INDEX NAME)



RN 23175-14-6 CAPLUS
CN Piperazine, 1,2-dimethyl-4-(p-methylbenzyl)-3-phenyl- (8CI) (CA INDEX NAME)

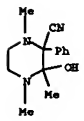


L7 ANSWER 102 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1968:114546 CAPLUS
DOCUMENT NUMBER: 68:114546
TITLE: Structural effect of nitrogen-containing substances in the microdetermination of carbon and hydrogen with external absorption of nitrogen oxides
AUTHOR(S): Marzadro, Margherita; Farina, A.; Settimj, Guido
CORPORATE SOURCE: Ist. Super. Sanita, Rome, Italy
SOURCE: Mikrochimica Acta (1968), (2), 332-43
CODEN: MIACAQ; ISSN: 0026-3672
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB A series of succinodinitrile derivs. were prepared for studies of C- and H-detns. in the presence of N. Thus, NCCRR'CHR"CN (I) (R = H, R' = R" = Me or Ph) were prepared by the method of K. Schwetick (1964); II [X = (CH2)2, R = H, R' = R" = Me, Me.HCl, or Ph; X = (CH2)2, R = R' = R" = Me; X = (CH2)2, R = Et, R' = R" = Me; X = (CH2)2, R = H, R' = Me, R" = Ph; X = (CH2)2, R = R' = Me, R" = Ph; X = (CH2)2, (R'R" =) (CH2)4, R = H, Me, or Et; X = (CH2)3, R = H, R' = R" Me or (R'R" =) (CH2)4; X = (CH2)3NRC(CN)R'C(CN)R"NR(CH2)3, R = H, R' = R" = Me or (R'R" =) (CH2)4] and III by the method of G. Settimj (1965); RR'N(CH2)xNR'R' (IV) (R = H, x = 2, R' = CMeCN.HCl) by the method of V. Yashunskii (1962); IV [x = 2, R = H, R' = CMe(CN)Et] by A. Ainley (1948); IV [x = 2, R = H, R' = CH(CN)Ph] by N. Schlesinger (1912). IV (x = 3, R = H, R' = CH(CN)Ph), m. 104-5°, and IV (x = 2, R = Me, R' = CH(CN)Ph), m. 145-6°, were also prepared by Schlesinger's method. 2,3-Butanedione, (20 millimoles) in 100 millimoles NaHSO3 in 20 ml. H2O was stirred 1 hr. and treated with 40 millimoles KCN in 10 ml. H2O with cooling to give I (R = CH, R' = R" = Me), m. 100-1°. I (R = CH, R' = Me, R" = Ph), m. 102-3°, and I [R = CH, (R'R" =) (CH2)4], m. 113-15°, were similarly prepared I (R = CH, R' = R" = Me) was treated with the stoichiometric amount of PhCH2NH2 to give I (R = NHCH2Ph, R' = R" = Me), m. 130-1°. I (R = NHMe, R' = R" = Me) m. 89-90°, and I [R = NHMe, (R'R" =) (CH2)4], m. 113-15°, were similarly prepared AcCH2Ac (0.1 mole), 0.1 mole KCN, and 0.05 mole H2N(CH2)2NH2 in 70 ml. H2O was kept at room temperature to give IV [x = 2, (RR' =) C(CN)Me(CH2)2C(CN)Me], m. 182-3°. The following IV [(RR' =) C(CN)Me(CH2)2C(CN)Me] were similarly prepared (x and m.p. given): 3, 138-9°; 4, 152-3°; 5, 120-2°; 6, 115°. NC(CH2)2CN, H2NOC(CH2)2CONH2, V (R = H, R' = Me, R" = R"' = CONH2), V (R' = Ph, R" = CN, R"' = OH, R = Me or Et) were also used. Studies of the divergent behavior of the nitrogenous compds. upon C- and H-detns. with external absorption of the N oxides indicated that erroneously high H values were obtained for those compds. containing the group NCC(R2)C(R2)CN (VI), where the R groups can be the same

or different. However, for the compds. in which R of VI were Ph or OH, uniform H values were obtained. The compds. giving high H values can be analyzed for C and H by using a combustion method providing for the reduction of N oxides. The combustion tube consisted of a 60-cm. long, 9-mm. inner diameter quartz tube, containing an Ag wire and packed with 10 mm. CuO, 110 mm. reduced Cu, 70 mm. Ag wool, 40 mm. granulated Co_3O_4, and 120 mm. of a 1:2 Co_3O_4-CuO mixture. The layers were separated with quartz wool and heated to the following temps. for the combustion: reduced Cu, 550-600°; Ag wool, 480°; catalyst layer, 690-700°.

IT **18316-94-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and carbon-hydrogen microdetn. of)

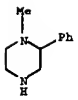
RN 18316-94-4 CAPLUS
CN 2-Piperazinecarbonitrile, 3-hydroxy-1,3,4-trimethyl-2-phenyl- (8CI) (CA INDEX NAME)



L7 ANSWER 103 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1967:18688 CAPLUS
DOCUMENT NUMBER: 66:18688
TITLE: Radioprotective agents. IV. Piperazinediones and piperazines related to phencyclidine
AUTHOR(S): Granger, Robert; Orzalesi, Henri; Robbe, Y.
CORPORATE SOURCE: Fac. Pharm., Montpellier, Fr.
SOURCE: Travaux de la Societe de Pharmacie de Montpellier (1965), 25(4), 313-17
CODEN: TSPMA6; ISSN: 0037-9115
DOCUMENT TYPE: Journal
LANGUAGE: French
OI For diagram(s), see printed CA Issue.
AB cf. preceding abstract. The title compds. were prepared. Thus, 6.5 g. 2-amino-2-aminomethylpropane in 50 ml. absolute alc. containing 15 g. Et oxalate gave after the exothermic reaction subsided a precipitate of 65% I (R = R' = Me), m. 204°. The following I were similarly prepared (R, R', % yield, and m.p. given): Me, Ph, 76, 214°; Et, Ph (II), 73, 243-4°; (RR' =) $(CH_2)_4$, 50, 246-8°; (RR' =) $(CH_2)_5$ (III), 67, 226-7°; (RR' =) $(CH_2)_6$, 71, 207-8°. $LiAlH_4$ reduction of I gave the corresponding piperazine. Thus was prepared from II 29% 2-phenyl-2-methylpiperazine, b0.1 90°, and from III 30% 2-spirocyclohexanepiperazine, b16 110°.

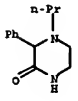
IT **13157-36-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 13157-36-3 CAPLUS
CN Piperazine, 2-methyl-2-phenyl- (8CI, 9CI) (CA INDEX NAME)

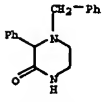


RN 5368-20-7 CAPLUS
CN 2-Piperazinone, 4-methyl-3-phenyl- (7CI, 8CI) (CA INDEX NAME)

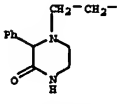
RN 5368-22-9 CAPLUS
CN 2-Piperazinone, 3-phenyl-4-propyl- (7CI, 8CI) (CA INDEX NAME)



RN 5368-23-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 5368-24-1 CAPLUS
CN 2-Piperazinone, 4-phenethyl-3-phenyl- (7CI, 8CI) (CA INDEX NAME)

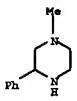


RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

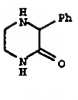
L7 ANSWER 104 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1966:59898 CAPLUS
DOCUMENT NUMBER: 64:59898
ORIGINAL REFERENCE NO.: 64:11209a-c
TITLE: Synthesis of pyridazine derivatives. V. Syntheses of 10H-pyridazino[3,2-b]quinazolin-10-one and its derivatives. 2
AUTHOR(S): Yanai, Mitsuji; Kinoshita, Toshio; Nakashima, Shigeko
CORPORATE SOURCE: Univ. Nagasaki, Japan
SOURCE: Yakugaku Zasshi (1966), 86(1), 69-71
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB cf. CA 63, 5638c. 4-Oxo-3,4-dihydro-2-quinazolinepropionitrile (0.1 g.) is refluxed for 9 hrs. in 5 ml. concentrated HCl to give 40 mg. 4-oxo-3,4-dihydroquinazoline-2-propionic acid (I), m. 232-3° (decomposition) (Me_2CO). 2-Methyl-4(3H)quinazolinone (10 g.) is boiled with 10 g. CCl_3CHO and 25 ml. pyridine for 2 hrs. to give 13.5 g. 2-(3-trichloro-2-hydroxypropyl)-4(3H)-quinazolinone (II), m. 203-4° (MeOH). A mixture of 3 g. II and 3 g. KOH dissolved in a small amount of H_2O is boiled for 15 min. with 120 ml. MeOH to give 0.15 g. 4-oxo-3,4-dihydro-2-quinazolineacrylic acid (III), m. 263.5-4.5° (decomposition) (dilute EtOH). III (0.2 g.) in 150 ml. MeOH is subjected to catalytic reduction using 15% Pd-C to give 72 mg. I. The same catalytic reduction in the presence of NH_4OH gives the Me ester of I, m. 183.5-5°. Heating 0.73 g. anthranilic acid with 0.5 g. 3-cyanopropionamide at 120° for 10 hrs. gives 20 mg. 2,2'-ethylenedi-4(3H)-quinazolinone, m. >305° (MeOH).

IT **5271-27-2**, Piperazine, 1-methyl-3-phenyl- **5271-28-3**, Piperazine, 1-methyl-2-phenyl- **5368-20-7**, 2-Piperazinone, 4-methyl-3-phenyl- **5368-22-9**, 2-Piperazinone, 3-phenyl-4-propyl- **5368-23-0**, 2-Piperazinone, 4-benzyl-3-phenyl- **5368-24-1**, 2-Piperazinone, 4-phenethyl-3-phenyl- **5368-28-5**, 2-Piperazinone, 3-phenyl-
(preparation of)

RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



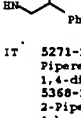
RN 5271-28-3 CAPLUS
CN Piperazine, 1-methyl-2-phenyl- (7CI, 8CI) (CA INDEX NAME)



L7 ANSWER 105 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1966:59897 CAPLUS
DOCUMENT NUMBER: 64:59897
ORIGINAL REFERENCE NO.: 64:11208g-h,11209a
TITLE: Derivatives of piperazine. XXXV. Synthesis of 2-phenylpiperazine and some derivatives
AUTHOR(S): Roderick, William R.; Platte, Howard J.; Pollard, C. B.
CORPORATE SOURCE: Univ. of Florida, Gainesville
SOURCE: Journal of Medicinal Chemistry (1966), 9(2), 181-5
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:59897
AB cf. CA 54, 24761b. Three methods for the synthesis of 2-phenylpiperazine (I), two of them new, were investigated. One method concerned the condensation of ethyl α-bromophenylacetate with ethylenediamine to form 3-oxo-2-phenylpiperazine followed by hydride reduction to I. This method was superior to the condensation of styrene oxide with ethylenediamine, previously employed. The 2nd method involved condensation of Et glycinate, cyanide, and BzH to ethyl N-(α-cyanobenzyl)glycinate, which was hydrolyzed to the amido ester. The latter was cyclized by NaH to 3,5-dioxo-2-phenylpiperazine which was reduced to I. The 1-alkyl derivs. of I were obtained unambiguously by alkylation of 3-oxo-2-phenylpiperazine followed by hydride reduction. The 4-alkyl and 1,4-dialkyl derivs. were prepared by alkylation of I.

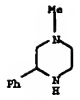
IT **5271-26-1**, Piperazine, 2-phenyl-
(derivs., preparation and pharmacological effects of)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

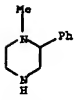


IT **5271-27-2**, Piperazine, 1-methyl-3-phenyl- **5271-28-3**, Piperazine, 1-methyl-2-phenyl- **5271-29-4**, Piperazine, 1,4-dimethyl-2-phenyl- **5271-31-8**, Piperazine, 1-ethyl-2-phenyl- **5368-21-8**, 2-Piperazinone, 4-ethyl-3-phenyl- **5368-22-9**, 2-Piperazinone, 3-phenyl-4-propyl- **5368-23-0**, 2-Piperazinone, 4-benzyl-3-phenyl- **5368-24-1**, 2-Piperazinone, 4-phenethyl-3-phenyl- **5368-28-5**, 2-Piperazinone, 3-phenyl- **5368-30-9**, Piperazine, 2-phenyl-1-propyl- **5368-33-2**, Piperazine, 1-benzyl-2-phenyl-
(preparation of)

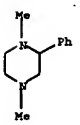
RN 5271-27-2 CAPLUS
CN Piperazine, 1-methyl-3-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 5271-28-3 CAPLUS
CN Piperazine, 1-methyl-2-phenyl- (7CI, 8CI) (CA INDEX NAME)

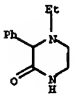


RN 5271-29-4 CAPLUS
CN Piperazine, 1,4-dimethyl-2-phenyl- (7CI, 8CI) (CA INDEX NAME)

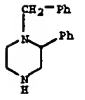


RN 5271-31-8 CAPLUS
CN Piperazine, 1-ethyl-2-phenyl- (7CI, 8CI) (CA INDEX NAME)

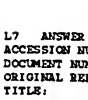
RN 5368-21-8 CAPLUS
CN 2-Piperazinone, 4-ethyl-3-phenyl- (7CI, 8CI) (CA INDEX NAME)



RN 5368-22-9 CAPLUS

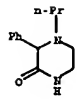


L7 ANSWER 106 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1963:441714 CAPLUS
DOCUMENT NUMBER: 59:41714
ORIGINAL REFERENCE NO.: 59:7527h,7528a-b
TITLE: Synthesis of adenine-8-C14
AUTHOR(S): Fel'dman, I. Kh.; Zlobina, V. I.
SOURCE: Mechenye Biol. Aktivn. Veshchestva, Sb. Statei (1962) 53-9
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
GI For diagram(s), see printed CA Issue.
AB Di-Et malonate (155 ml.) was mixed with 465 ml. concentrated NH3 (22-23%), the mixture shaken for 40-45 min. until a transparent homogeneous liquid formed, and kept overnight to give 78.5% H2C(CONH2)2 (I). By known methods, I was treated with H2NCHO and NaOEt to give, after acidification with HCl, 53.7% 4,6-dihydroxypyrimidine, decompose but does not melt above 300°, which gave, with HNO3, 76.5% the 5-NO2 derivative, decompose but does not melt above 300°. Treatment of this with POCl3 and Me2C6H4 gave 86% 4,6-dichloro-5-nitropyrimidine, m. 102-4°, converted with NH3 to 97% the 4,6-diamino analog, and then reduced with Fe and HCl to 82% 4,5,6-triaminopyrimidine (II), m. 252-3°. II and (H2N)C14S gave 60% thioadenine-8-C14 (III), which with H2O2 gave 81% adenine-8-C14 sulfate, which treated with NH8 gave the free base, m. 358-60° (decomposition).
IT 5271-26-1, Piperazine, 2-phenyl-
(synthesis of)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

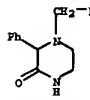


L7 ANSWER 107 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1963:441713 CAPLUS
DOCUMENT NUMBER: 59:41713
ORIGINAL REFERENCE NO.: 59:7527h
TITLE: The synthesis of 2-phenylpiperazine and some derivatives
AUTHOR(S): Platte, Howard Jean
CORPORATE SOURCE: Univ. of Florida, Gainesville
SOURCE: (1963) 59 pp. Avail.: Univ. Microfilms (Ann Arbor, Mich.), Order No. 62-6545
From: Dissertation Abstr. 23, 3128
DOCUMENT TYPE: Dissertation
LANGUAGE: Unavailable
AB Unavailable
IT 5271-26-1, Piperazine, 2-phenyl-
(synthesis of)

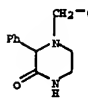
CN 2-Piperazinone, 3-phenyl-4-propyl- (7CI, 8CI) (CA INDEX NAME)



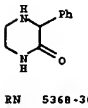
RN 5368-23-0 CAPLUS
CN Piperazinone, 3-phenyl-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 5368-24-1 CAPLUS
CN 2-Piperazinone, 4-phenethyl-3-phenyl- (7CI, 8CI) (CA INDEX NAME)



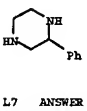
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)



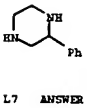
RN 5368-30-9 CAPLUS
CN Piperazine, 2-phenyl-1-propyl- (7CI, 8CI) (CA INDEX NAME)

RN 5368-33-2 CAPLUS
CN Piperazine, 2-phenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)

RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



L7 ANSWER 108 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1963:441712 CAPLUS
DOCUMENT NUMBER: 59:41712
ORIGINAL REFERENCE NO.: 59:7527e-h
TITLE: Nucleophilic substitution of α-bromo diesters
AUTHOR(S): Gelin, Rene; Gelin, Suzanne
CORPORATE SOURCE: Inst. Natl. Sci. Appl., Villeurbanne, Fr.
SOURCE: Compt. Rend. (1963), 256, 3705-8
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 59:41712
AB By treatment of α-bromodiethers with NaNO2 the following corresponding EtO2CCH(NO)2(CH2)nCO2Et were prepared (n, b.p./mm., n25D, d25 given): 1, 116°/1 and 132-3°/3, -, - (an appreciable amount di-Et maleate was also obtained in this case); 2, 115°/0.5, 1.441, 1.1667; 3, 134°/0.7 and 140°/1, -, -. Na (23 g.) in 250 ml. absolute EtOH treated with 1 mole appropriate phenol in 100 ml. EtOH, the solution treated during 15 min. with 1 mole appropriate α-bromo diester, heated 3 hrs. on a boiling H2O bath, concentrated, treated with H2O, and the organic layer washed with 10% aqueous Na2CO3, dried, and distilled gave α-arylcxydiesters. In this manner were prepared the following RO2CCH(OC6H4R1)(CH2)nCO2R (R, R1, n, b.p./mm., n25D, d25, m.p. corresponding diacid given): Et, H, 2, 160°/1.5, 1.488, 1.1101, 105°; Et, o-Me, 2, 149°/0.5, 1.488, 1.0878, 139°; Et, H, 3 (I), 155°/0.5 and 169-70°/1, 1.486, 1.0489, 140°. Similar treatment of Et02CCHBrCH2CO2Et with PhONa solution resulted only in the loss of HBr. Dieckmann condensation of I gave 62% 3-phenoxy-2-oxocyclopentanecarboxylate (II), b1.2 163-4°, n25D 1.531, d25 1.1592; semicarbazone m. 145°. II saponified and the resulting acid decarboxylated gave 60% 2-phenoxycyclopentanone (III), b1 128-30°; semicarbazone m. 205°. Treatment of HO2CCH(OPh)(CH2)2CO2H with BaO at 290° gave a poor yield of III. Treatment of 0.52 mole pyrrolidine in C6H6 with 0.25 mole appropriate α-bromo diester gave the following EtO2CCHR(CH2)nCO2Et (IV) (R = pyrrolidino) (n, % yield, b.p./mm., n25D, d25 given): 1, 75, 116°/1, 1.453, 1.0523; 2, 42, 128°/1, 1.455, 1.0425; 3, 62, 138°/1, 1.4566, 1.0309. Derivs. of IV in which R was piperidine, morpholine, piperazine, and Et2NH were also prepared, known compds. being obtained.
IT 5271-26-1, Piperazine, 2-phenyl-
(synthesis of)
RN 5271-26-1 CAPLUS
CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



L7 ANSWER 109 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1963:59797 CAPLUS
DOCUMENT NUMBER: 58:59797
ORIGINAL REFERENCE NO.: 58:10214a-c
TITLE: 3-Substituted 2-oxopiperazines
INVENTOR(S): Kawahara, Shigemi; Kawakami, Hideyo
PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co., Ltd.
SOURCE: 2 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 37004540		19620614	JP	19590508

GI For diagram(s), see printed CA Issue.
AB Into a mixture of 60 g. ethylenediamine and 200 cc. C6H6 is dropped a solution of 40 g. Me α-bromophenylacetate in 100 cc. C6H6 during 2.5 hrs. and the mixture is refluxed 2 hrs. and concentrated to half volume; ethanolic KOH solution is added, the mixture filtered, and the filtrate concentrated to give 13 g. 3-phenyl-2-oxopiperazine (I, R = Ph, R1 = H), m. 141-2° (Me2CO) (hydriodide m. 216.5-17.5°). Similarly prepared are the following I (R, R', m.p. and m.p. HI salt given): cyclohexyl, H, 149-50°, 211-12°; Ph, Ph, 156-7°, 218-19°; p-chlorophenyl, H, 134-5°, --. These are analgesics and anti-spasmodics.
IT 5368-28-5, 2-Piperazinone, 3-phenyl- 22476-76-2, 2-Piperazinone, 3,3-diphenyl- 93690-93-8, 2-Piperazinone, 3-phenyl-, hydriodide
(preparation of)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

RN 22476-76-2 CAPLUS
CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

RN 93690-93-8 CAPLUS
CN 2-Piperazinone, 3-phenyl-, hydriodide (7CI) (CA INDEX NAME)

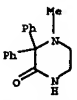
● HI

L7 ANSWER 110 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1963:40295 CAPLUS
DOCUMENT NUMBER: 58:40295
ORIGINAL REFERENCE NO.: 58:6921c-e
TITLE: α-Aminophenylacetic acid derivatives having antispasmodic activity and their related compounds. III. Synthesis of 3-substituted-2-piperazinones and their 4-methyl derivatives
AUTHOR(S): Kawahara, Shi-gemi; Kawakami, Hideyo
CORPORATE SOURCE: Yamanouchi Pharm. Co., Tokyo
SOURCE: Yakugaku Zasshi (1962), 82, 909-12
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
GI For diagram(s), see printed CA Issue.
AB cf. CA 56, 4658a. (H2NCH2)2 (22.5 g.) in 40 ml. C6H6, treated dropwise with 20 g. p-BrC6H4CHBrCO2Et in 40 ml. C6H6, the mixture refluxed 2 hrs., the solution concentrated, KOH-EtOH added, the KBr filtered off, and the filtrate concentrated gave 41% I (R = p-BrC6H4, R11 = H), m. 168-9° (HCl salt, m. 233-5°). Similarly were prepared I (R, R1, % yield, b.p./mm. or m.p., and m.p. of HCl salt given): Me, H, 41.7, 135-7°/3, 202-3°; Et, H, 56.5, 59-60°, 168-9°; Bu, H, 41.7, 135-7°/3,202-3°; C6H11, H, 49.3,149-50°, 233-4°; Ph, H, 44.4, 141-2°, --; p-ClC6H4, H, 45, 134-5°, 210-17°; Ph, Ph, 45.4, 158-9°,241-2°. I(R = R1 = Ph)(1 g.), 1.5 g. MeI, and 3 ml. EtOH refluxed 5 hrs. and the product filtered gave II (R = R1 =Ph), m. 237-9°. Similarly were prepared II (R, R1, and m.p. of HCl salt given): Me, H, 239-40°; C6H11, H, 211-12°; Ph, H, 216-17°; p-BrC6H4, H, 228-9°. These compds. showed no antispasmodic action.
IT 5368-28-5, 2-Piperazinone, 3-phenyl- 22476-76-2, 2-Piperazinone, 3,3-diphenyl- 93648-84-1, 2-Piperazinone, 4-methyl-3,3-diphenyl- 94033-08-6, 2-Piperazinone, 4-methyl-3-phenyl-, hydriodide 857192-21-3, 2-Piperazinone, 4-methyl-3,3-diphenyl-, hydrochloride 857192-34-8, 2-Piperazinone, 3,3-diphenyl-, hydrochloride
(preparation of)
RN 5368-28-5 CAPLUS
CN Piperazinone, 3-phenyl- (8CI, 9CI) (CA INDEX NAME)

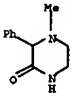
RN 22476-76-2 CAPLUS

CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

RN 93648-84-1 CAPLUS
CN 2-Piperazinone, 4-methyl-3,3-diphenyl- (7CI) (CA INDEX NAME)

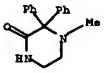


RN 94033-08-6 CAPLUS
CN 2-Piperazinone, 4-methyl-3-phenyl-, hydriodide (7CI) (CA INDEX NAME)



● HI

RN 857192-21-3 CAPLUS
CN 2-Piperazinone, 4-methyl-3,3-diphenyl-, hydrochloride (7CI) (CA INDEX NAME)



● HCl

RN 857192-34-8 CAPLUS
CN 2-Piperazinone, 3,3-diphenyl-, hydrochloride (7CI) (CA INDEX NAME)

● HCl

L7 ANSWER 111 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1962:2438 CAPLUS
DOCUMENT NUMBER: 56:2438
ORIGINAL REFERENCE NO.: 56:482e-g
TITLE: Substituted piperazinone
INVENTOR(S): Melone, Gaetano; Vecchi, Alberto; Maffii, Giulio
PATENT ASSIGNEE(S): Lepetit S.p.A.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 870888		19610621	GB	

AB 3-Phenyl-3-methyl-2-piperazinone (I) is effective as an anticonvulsive agent. I, m. 165-7°, is obtained in 59% yield by heating at 150° 20 min. 17 g. Et α-phenyl-α-chloropropionate (II) and 36 cc. anhydrous (CH2)2(NH2)2, cooling, adding 200 cc. anhydrous EtOH, evaporating to dryness in vacuo, adding 50 cc. H2O, and recrystg. from light petroleum. II is obtained in 81% yield, b10 117-19°, by mixing 120 g. atrolactic acid and 280 cc. SOCl2, letting stand 30 hrs., distilling the excess SOCl2 at room temperature, distilling the residual oil at 107-9°/15 mm., adding 700 cc. anhydrous EtOH, letting stand 3 hrs., evaporating to dryness, and distilling at 117-19°.
IT 86311-16-2, 2-Piperazinone, 3-methyl-3-phenyl-
(preparation of)
RN 86311-16-2 CAPLUS
CN Piperazinone, 3-methyl-3-phenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 112 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1961:28013 CAPLUS
DOCUMENT NUMBER: 55:28013
ORIGINAL REFERENCE NO.: 55:5549c-i,5550a-i,5551a-g
TITLE: 1-Arylalkyl-4-arylpiperazines
INVENTOR(S): Janssen, Paul A. J.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

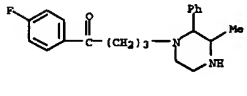
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 589092		19600415	BE	
DE 1185615			DE	
GB 872352			GB	

AB 1-(γ-Benzoylpropyl)-4-phenylpiperazine, m. 89-90° (6:5 iso-PrOH-H2O), was prepared by reaction of 7.5 g. chlorobutyrophenone and 13.4 g. 1-phenylpiperazine 6 hrs. at room temperature and 4 hrs. at 105-10°; after cooling, 200 g. Et2O was added, the solution dried and evaporated, the residue dissolved in hot 4:1 70% EtOH-Et2O, and precipitated on cooling. The following 1-(arylalkyl)piperazines (1-arylalkyl = γ-benzoylpropyl) were thus prepd (4-aryl group and m.p. given): 3-fluorophenyl, 80.2-1.6° (iso-Pr2O); 3-chlorophenyl, 88-90°; 4-chlorophenyl, 127-8° (10:1 petr. ether-EtOH); 2-tolyl (HCl salt), 205-7° (5:4:3 iso-PrOH-MeOH-acetone); 3-tolyl, 78-9° (13:1 petr. ether-EtOH); 4-tolyl, 87.5-8.5° (iso-PrOH-H2O); 2,5-xylyl (HCl salt), 229-30°; 2-anisyl (di-HCl salt), 207.5-9.5° (iso-PrOH); 4-anisyl, 85-6° (iso-Pr2O); 2-pyridyl, 63-4.8°; 6-methyl-2-pyridyl, 72-5.8°; 4-methyl-2-pyridyl, 65.5-6.5°; 3-cyano-2-pyridyl, 45.5-7°; 5-methyl-2-pyridyl, 71.5-3°; 2-pyrimidyl, 78-9°; 4-methyl-2-pyrimidyl, 62.4-3.2°; 4,6-dimethyl-2-pyrimidyl, 97.4-8°. The following 1-(δ-benzoylbutyl)piperazines: Ph (di-HCl salt), 209-12° (8:8:1 acetone-iso-PrOH-MeOH); 3-tolyl (di-HCl salt), 191.5-2.5°; 2-pyridyl (di-HCl salt), 206.5-7.5°. 1-[γ-(4-Fluorobenzoyl)propyl]piperazines: Ph, 104-6° (iso-PrOH); 3-fluorophenyl (di-HCl salt), 198-200°; 4-fluorophenyl (di-HCl salt), 199.5-201.1°; 4-fluorophenyl (HCl salt), 180.2-1.6° (acetone-iso-PrOH); 2-chlorophenyl (HCl salt), 211-14° (iso-PrOH); 3-chlorophenyl (HCl salt), 197.8-9.5° (acetone-MeOH); 4-chlorophenyl, 96-8° (40:3 petr. ether-EtOH); 2-tolyl (HCl salt), 230-41° (decomposition); 3-tolyl (di-HCl salt), 210-13° (decomposition); 4-tolyl, 99-101° (iso-PrOH-H2O); 2,5-xylyl (di-HCl salt), 237.5-9.5°; 2-anisyl, 67.5-8.5° (iso-Pr2O) (di-HCl salt m. 205-5.5°); 4-anisyl, 104.6-5.5° (iso-PrOH); 5-methyl-2-pyridyl, 92-3°; 4-methyl-2-pyrimidyl (di-HCl salt), 215-20°. 1-[γ-(4-Chlorobenzoyl)propyl]piperazines: Ph, 113.5-14.5°; 3-chlorophenyl, 86-8°; 3-tolyl, 99.6-110.4°; 4-tolyl, 129.5-30.5°; 4-anisyl, 126.6-7.8°; 4-fluorophenyl (HCl salt), 207-9°; 4-chlorophenyl, 127-8.5°; 2-pyridyl, 82.5-4.4°. 1-[γ-(4-Methylbenzoyl)propyl]piperazines: Ph, 103-4.8°; 2-chlorophenyl, 106-7°, 3-chlorophenyl, 124.5-5.5°; 4-chlorophenyl, 134.5-6°; 3-tolyl, 87-8.5°; 4-tolyl, m. 117.2-19.2°; 2-pyridyl, 92-3°; 4-anisyl, 123.2-4°. 1-[γ-(2,5-Dimethylbenzoyl)propyl]piperazines: Ph (HCl salt), 179.5-80.5°. 1-[γ-(4-Anisoyl)propyl]piperazines: 3-fluorophenyl, m. 111-13°; 2-chlorophenyl, 73.5-3.8°; 3-iodophenyl, -, 3-chlorophenyl, 101.6-2.4°; 4-chlorophenyl, 128.6-30°; 2-tolyl (HCl salt), 239.5-40.5°; 3-tolyl, 105-6°; 4-tolyl, 126.6-7.6°; 2,5-xylyl (HCl salt), 225-6°; 2-anisyl (di-HCl salt), 197-8.2°; 4-anisyl, 125.6-7.4°. 1-[γ-(2,4-Dimethoxybenzoyl)propyl]piperazines: Ph (di-HCl salt), 195-6°; 2-tolyl (HCl salt), 177-9.2°; 2-anisyl (HCl salt), 214-15°; 2-pyridyl, 84.5-5.5°; 4-methyl-2-pyridyl, 79-80.8°. 1-[γ-(3,4-Dimethoxybenzoyl)propyl]piperazines: Ph, 101-3.5°; 2-pyridyl, 104.5-6.9°; 4-methyl-2-pyridyl, 85.4-6.5°. 1-[γ-(2,5-Dimethoxybenzoyl)propyl]piperazines: Ph(di-HCl salt), 179-80°. 1-[γ-(2,3,4-Trimethoxybenzoyl)propyl]piperazines: Ph, 113-16.2°. 1-[γ-(4-Ethoxybenzoyl)propyl]piperazines: Ph, 125.2-6.8°; 3-tolyl, 113.4-13.8°. 1-(β-Methyl-γ-benzoylpropyl)piperazines: Ph (di-HCl salt), 219.5-21.5°; 3-tolyl, 32.8-3.8° (petr. ether); 2-anisyl (di-HCl salt), 193-7°. 1-[γ-(4-Iodobenzoyl)propyl]piperazines: 5-methyl-2-pyridyl, -; 2-pyridyl, -; 4-methyl-2-pyrimidyl (di-HCl salt), -; 2-thiazolyl, -. 1-[γ-(4-Methoxybenzoyl)propyl]piperazines: 6-methyl-2-pyridyl, 74.6°; 4-methyl-2-pyridyl, 69.5-70.5°; 5-methyl-2-pyridyl, 84.6-6°; 3-cyano-2-pyridyl, 73.5-5.5°; 2-pyrimidyl, 83-3.5°; 2-thiazolyl (di-HCl salt), 122-4°; 4-methyl-2-pyrimidyl, 90°; 4,6-dimethyl-2-pyrimidyl, 71.8-4.2°; 2-(4-methyl)thiazolyl, 62.5-72° (di-HCl salt m. 187-201°); 2-(5-methyl-1,3,4-thiadiazolyl), 111.5-12.5°. 1-[γ-(2-Thenoyl)propyl]piperazines: 2-pyridyl, 70-1°; 5-methyl-2-pyridyl, 89.5-90.5°; 4-methyl-2-pyridyl, 65-6°; 6-methyl-2-pyridyl, 107.5-8.5°; 3-cyano-2-pyridyl, 71.5-2.5°; 2-pyrimidyl, 57.5-8.6°; 4-methyl-2-pyrimidyl, 52-3° (di-HCl salt m. 214.8-17°); 4,6-dimethyl-2-pyrimidyl, 64.5-5.6°; 2-thiazolyl, 52.2-4.6°; 2-(4-methyl)thiazolyl (di-HCl salt), 163-6°; 2-(5-methyl-1,3,4-thiadiazolyl), 83.6-5.6°; Ph (HCl salt), 186-7°; 3-fluorophenyl, 68.2-70.2°; 2-chlorophenyl (HCl salt), 202.5-3°; 3-chlorophenyl, 103.6-4.6°; 4-chlorophenyl, 94.5-6.5°; 2-tolyl (HCl salt), 212-13°; 3-tolyl, 74-6°; 4-tolyl, 77.5-8.5°; 2,5-xylyl (di-HCl salt), 214-15°; 2-anisyl (di-HCl salt), 197-201.8°; 4-anisyl, 69-70°. 1-[γ-(4-Fluorobenzoyl)propyl]piperazines: 4,6-dimethyl-2-pyrimidyl, 85.5-7.5°; 2-pyrimidyl, 111.6-12.8°; 2-thiazolyl, 74.5-6.5°; 2-(5-methylthiazolyl), 73-5.2°; 2-(5-methyl-1,3,4-thiadiazolyl), 105-6°, 2-(1,3,4-thiadiazolyl), 94.6-5.8°. 1-(γ-Benzoylpropyl)piperazines: 2-thiazolyl, 61.5-4°; 2-(4-methylthiazolyl)(di-HCl salt), 186-8°; 2-(1,3,4-thiadiazolyl), 59-64°; 2-(5-methyl-1,3,4-thiadiazolyl), 98-100.2°. 1-(γ-Benzoylpropyl)-4-(4-fluorophenyl)piperazine di-HCl salt, m. 214.5-17° (1:2:2 acetone-iso-PrOH-MeOH), was prepared by heating in a sealed tube 72 hrs. at 145-50° 9.1 g. γ-chlorobutyrophenone, 23 g. 1-(4-fluorophenyl)piperazine, and 0.1 g. KI, extracting the cooled mixture with H2O and Et2O, and treating the dried organic layer with dry HCl; the base was liberated in aqueous alkaline solution, m. 104-5.5° (EtOH). 1-[γ-(4-Anisoyl)propyl]-4-phenylpiperazine, m. 126.6-7.5°, and the corresponding 4-fluorophenyl derivative, m. 121.2-1.8°, 1-[γ-(2-thenoyl)propyl]-4-phenylpiperazine·2HCl, decomposed at 203-5°, and the 4-fluorophenyl analog, m. 82.5-3°, were similarly prepared 1-[γ-(4-Fluorobenzoyl)propyl]-4-(3-methyl-2-pyridyl)piperazine·HCl, m. 212-20° (iso-Pr2O), was prepared from 4.4 g. γ-chloro-4-fluorobutyrophenone and 7.8 g. 1-(3-methyl-2-pyridyl)piperazine in 120 cc. C6H6 in a sealed tube at 125° 24 hrs. The following derivs. were similarly prepared 1-(γ-(4-Fluorobenzoyl)propyl] compound (4-aryl and m.p. given): 4-methyl-2-pyridyl, 79.5-81°; 3-cyano-2-pyridyl, 71.5-3.5°; 6-chloro-3-pyridazinyl, 152-3.9°. 1-[γ-(4-Methoxybenzoyl)propyl] compound: 6-chloro-3-pyridazinyl, 176-6.8°. 1-[γ-(2-Thenoyl)propyl] compound: 6-chloro-3-pyridazinyl, 138-8.8°; 6-methoxy-3-pyridazinyl, 98.8-9.8°. 1-(γ-Benzoylpropyl)-4-benzoylpiperazine, m. 85-6° (iso-Pr2O), was prepared by heating a stirred mixture of 7 g. 1-(γ-benzoylpropyl)piperazine, 60 g. C6H6, 50 g. 10% NaOH solution, and (dropwise) 4.5 g. BzCl, and keeping the mixture at 70° 45-60 min. The following 1-(γ-benzoylpropyl) compds. were similarly prepared (same data): 4-fluorobenzoyl (HCl salt), 214.5-16.5°; 2-chlorobenzoyl (HCl salt), 216-17.5°; 3-chlorobenzoyl (HCl salt), 210.5-12.5°; 4-chlorobenzoyl, 98-9°; 3-trifluoromethylbenzoyl, 77.5-9°; 2-anisoyl (HCl salt), 140.8-3°; 2,6-dimethoxybenzoyl (oxalate); 193.1-4.8°; 3,4,5-trimethoxybenzoyl (oxalate), 187.4-8.2°; 5-(3-methyl-1,2,4-thiadiazolyl), 78-9°; 3-carboxamido-2-pyridyl, 112.6-14.2°. 1-[γ-(4-Fluorobenzoyl)propyl] compds.: benzoyl (HCl salt), 228-32.5°. 1-[γ-(4-Anisoyl)propyl] compds.: benzoyl (HCl salt), 200.2-3.2°; 4-fluorobenzoyl, 65.2-6.2°; 2-anisoyl, 97-8.2°; 2,6-dimethoxybenzoyl (oxalate), 201.5-1.8°. 1-[γ-(2-Thenoyl)propyl] compds.: 4-fluorobenzoyl, 82.5-3.5°; 4-nicotinoyl, 64.6-5.8°; 2-thenoyl, 85.6-7.4°. 1-Phenyl-4-(4-phenylpiperazinyl)-1-butanol·2-HCl, m. 198-200°, was prepared by reaction of 8.5 g. 1-(γ-benzoylpropyl)-4-phenylpiperazine and 0.25 g. NaBH4 in 160 cc. absolute EtOH 2 hrs. at 45° and decomposition with 2N HCl; the distillation residue was treated with aqueous alkali solution, extracted with Et2O, and treated with dry HCl. Following 1-phenyl-4-(R-substituted-piperazinyl)-1-butanols were similarly prepared (R given): 4-(3-tolyl), 83.5-4.5°; 4-(4-tolyl), 90.2-1.8°; 4-(3-fluorophenyl), 70-1.5°; 4-(3-chlorophenyl), 99-9.9°; 4-(4-chlorophenyl), 105-6°; 4-(4-anisyl), 91.5-2.6°; 4-(4-methyl-2-pyrimidyl), 78.5-80°; 4-(2-pyridyl), 113.8-14.8°. 1-(4-Tolyl) analogs: 4-Ph, 104-5.6°; 4-(4-tolyl), 105-6°; 4-(4-anisyl), 84-5°; 4-(2-pyridyl), 119.2-19.8°. 1-(2,5-Xylyl) analogs: 4-Ph, 92.8-3.8°. 1-(4-Fluorophenyl) analogs: 4-Ph, 85.5-7.5° (HCl salt m. 143.5-6.5°); 4-(3-chlorophenyl), 100-1.8°; 4-(4-chlorophenyl), 112.5-13.8°; 4-(2-anisyl), 105-6°; 4-(4-tolyl), 93-5°; 4-(2-pyridyl), 104-5°. (4-Chlorophenyl) analogs: 4-Ph, 93.5-5°; 4-(3-chlorophenyl), 84-5°; 4-(4-chlorophenyl), 132-3°; 4-(3-tolyl), 93-4.5°. 1-(4-Anisyl) analogs: 4-Ph, 104.2-7.2°; 4-(2-chlorophenyl), 106.8-8.4°; 4-(3-tolyl), 119.5-21.5°; 4-(4-tolyl), 109.5-10.2°. 1-(4-Ethoxyphenyl) analogs: 4-Ph, 113-14.8°. 1-(2-Thienyl) analogs: 4-Ph, 91.4-3°; 4-(3-tolyl), 76-8°; 4-(4-tolyl), 113-14°; 4-(3-fluorophenyl), 78-9°; 4-(4-chlorophenyl), 109.2-10°; 4-(2-chlorophenyl), 85.5-7.5°; 4-(3-chlorophenyl), 81.5°; 4-(2-pyridyl), 95-7°; 4-(2-pyrimidyl), 97.6-9.4°. 1-Phenyl-5-(4-phenylpiperazinyl)-1-pentanol, m. 111-12°, and 1-phenyl-5-[4-(3-tolyl)piperazinyl]-1-pentanol, m. 107.4-9.2°, were also prepared 1-[γ-(4-Anisoyl)propyl]-4-(6-methyl-2-pyridyl)piperazine, m. 74-6°, was prepared by heating 8 hrs. at 110° 6.2 g. γ-chloro-4-methoxybutyrophenone and 8.9 g. 1-(6-methyl-2-pyridyl)piperazine. 1-(γ-Benzoylpropyl)-4-(6-methylthio-3-pyridazinyl)piperazine, m. 124-5°, was prepared by heating in a sealed tube 48 hrs. at 140-50°, 14.8 g. 1-(γ-benzoylpropyl)piperazine, 5 g. 3-chloro-6-(methylthio)pyridazine, 120 g. toluene, and 0.01 g. KI. N-(4-Tolylsulfonyl)-N-(β-hydroxyethyl)-N-(β-hydroxypropyl)amine (I), m. 66.2-8.2° (iso-PrOH and petr. ether at -20°), was prepared by adding 190.5 g. 4-toluenesulfonyl chloride to 119 g. N-(β-hydroxyethyl)-N-(β-hydroxypropyl)amine and 54 g. Na2CO3 in 450 g. H2O at 70°, heating 1 hr. at 95°, cooling, and extracting with Et2O. Reaction of 450 g. I and 690 g. SOCl2 at 125° 1 hr., yielded N-(4-tolylsulfonyl)-N-(β-chloroethyl)-N-(β-chloropropyl)amine (II). Adding slowly 9.3 g. aniline in 15 cc. cyclohexanol to a hot mixture of 31 g. II, 32 g. Na2CO3, 0.1 g. KI, and 215 g. cyclohexanol, refluxing 48 hrs., cooling, filtering, adding C6H6, Et2O, H2O, and concentrated HCl precipitated 1-(4-tolylsulfonyl)-3-methyl-4-phenylpiperazine·HCl (III), m. 214-20° (decomposition). Powdered 3-methyl-4-phenylpiperazine·2HBr, m. 193.4-9° (decomposition), was prepared by stirring at 30° 24 hrs. 93.5 g. III, 71.7 g. phenol, and 570 g. 30% HBr in AcOH, treating the product with Et2O, then boiling acetone. The free base in 4-methyl-2-pentanone was refluxed 22 hrs. with 11.2 g. γ-chloro-4-fluorobutyrophenone, 12.7 g. Na2CO3, and 0.1 g. KI; the product was treated with active C, then with dry HCl in Et2O to yield 1-[γ-(4-fluorobenzoyl)propyl]-3-methyl-4-phenylpiperazine·2HCl, m. 227-34.5° (decomposition). Following 1-substituted-3-methyl-4-substituted-piperazines were similarly prepared (1- and 4-substituents and m.p. given): γ-benzoylpropyl, Ph (di-HCl salt), 229-33° [4-(2-anisyl) analog (di-HCl salt) m. 212-15°]; γ-(4-anisoyl)propyl, Ph, 92-3.8° [4-(2-anisyl) analog (di-HCl salt) m. 199-200°]; γ-(2-thenoyl)propyl, Ph (di-HCl salt), 214-15.5° [4-(2-anisyl) analog (di-HCl salt) m. 213-14.5°]; γ-(4-fluorobenzoyl)propyl, 2-anisyl (di-HCl salt), 212-13°. 1-[γ-(4-Anisoyl)propyl]-4-phenylpiperazine, m. 85-6.2°, was obtained by adding dropwise 180.9 g. 1-phenyl-4-(cyanopropyl)piperazine in 700 cc. Et2O to a stirred solution of 211 g. 4-anisylmagnesium bromide in 700 cc. Et2O, refluxing 1 hr., treating with dilute HCl, heating gently the aqueous solution 1 hr., and extracting the alkalized solution with CHCl3.

IT **1535-11-1**, Butyrophenone, 4'-fluoro-4-(3-methyl-2-phenyl-1-piperazinyl)-, dihydrochloride
(preparation of)

RN 1535-11-1 CAPLUS

CN Butyrophenone, 4'-fluoro-4-(3-methyl-2-phenyl-1-piperazinyl)-, dihydrochloride (6CI, 8CI) (CA INDEX NAME)



●2 HCl

L7 ANSWER 113 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1959:111827 CAPLUS
DOCUMENT NUMBER:	53:111827
ORIGINAL REFERENCE NO.:	53:20072d-i,20073a
TITLE:	Synthesis of 3,3-disubstituted-2-piperazinones
AUTHOR(S):	Kametani, Tetsuji; Taub, Wm.; Ginsburg, David
CORPORATE SOURCE:	Israel Inst. Technol., Haifa
SOURCE:	Bulletin of the Chemical Society of Japan (1958), 31, 860-1 CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE:	Journal
LANGUAGE:	Unavailable

AB cf. Hodgson, et al., C.A. 49, 5439g. Several 3,3-disubstituted-2-piperazinones were synthesized for pharmacol. testing as potential hypnotics. Di-Et methyl-sec-butyl-malonate (I), b19 110 .apprx. 123°, was prepared in 73% yield by alkylation of di-Et methylmalonate with MeCHBrEt in the presence of EtONa. α-sec-Butylpropionic acid was prepared in 66% yield by refluxing I 3 hrs. with 20% aqueous alc. KOH, acidifying with 10% HCl, extracting with Et2O, and decarboxylating the crude malonic acid (II) at 200°. α-Bromo-α-sec-butylpropionyl bromide (III), b40 114 .apprx. 21°, was obtained in 86% yield by treating 6.0 g. II in the usual way with 0.60 g. red P and 6.8 ml. Br. Et α-bromo-α-sec-butylpropionate (IV), b33 116°, was prepared in 68% yield by the usual procedure from 25.5 g. freshly distilled III and 4.4 g. EtOH. IV (15.4 g.) in 100 ml. dry EtOH was added dropwise with stirring at room temperature during 3 hrs. to 50 g. H2NCH2CH2NH2 in 150 ml. dry EtOH, after 2 hrs. at reflux temperature 1.51 g. EtONa in 30 ml. dry EtOH added to the boiling solution during 30 min., refluxing continued 2 addnl. hrs., excess EtOH and H2NCH2CH2NH2 distilled in vacuo, Me2CO added to the residue, the precipitate filtered off, the mother liquor evaporated and Me2CO again added, and the residue distilled at 0.2 mm. to

yield 3-methyl-3-sec-butyl-2-piperazinone, m. 58-61° (petr. ether), hydrobromide m. 203-6° (absolute EtOH-Et2O). An Et2O solution of III added to excess H2NCH2CH2NH2 in CHCl3 at 0° gave a precipitate After refluxing 3 hrs., a brown insol. oil was obtained which solidified on standing. Recrystn. from C6H6 gave a product, m. 172-4°, which gave a neg. test with aqueous AgNO3. Its analysis was unsatisfactory, but it appeared to be the α,α-dibromo diamide. Mediphenylacetate (V), m. 60°, was prepared from 25 g. Ph2CHCO2H, 500 ml. MeOH, and 25 ml. concentrated H2SO4. The mixture was refluxed 3 hrs., the MeOH removed in vacuo, the residue poured into ice water, and the oil which solidified recrystd. from aqueous EtOH. V (2.26 g.), 15 ml. CCl4, and 1.82 g. N-bromosuccinimide were refluxed 6 hrs. to give after the usual workup 2.77 g. oily Me α-bromodiphenylacetate (VI). Crude VI (2.5 g.), 1.2 g. H2NCH2CH2NH2, and 10 ml. dry CHCl3 were refluxed 4 hrs. and the mixture was kept overnight; a red oil separated which later solidified; it appeared to be a hydrobromide of H2NCH2CH2NH2. The CHCl3 solution was evaporated to dryness and the glassy residue triturated with C6H6 to afford 2.3 g. 3,3-diphenyl-2-piperazinone, m. 163°; picrate m. 248-9° (EtOH). α-phenylethylacetate (VII), b. 225-8°, was obtained in 91% yield by esterification of the acid as described above for V. Me α-bromo-α-phenylethylacetate (VIII) was obtained by bromination of 17.8 g. VII with 20.8 g. N-bromosuccinimide in 100 ml. CCl4 during 4 hrs. and after the usual work up gave 94% crude ester. 3-Ethyl-3-phenyl-2-piperazinone, b0.4 140 .apprx. 160°, was prepared as an oil in poor yield from crude VIII and H2NCH2CH2NH2 as described for the preparation of 3-methyl-3-sec-butyl-2-piperazinone. Although the desired hypnotic activity was present in several of the compds., it did not appear sufficient for further extension.

IT 22476-76-2, 2-Piperazinone, 3,3-diphenyl- 100253-41-6, 2-Piperazinone, 3-ethyl-3-phenyl- 860229-16-9, 2-Piperazinone, 3,3-diphenyl-, picrate
(preparation of)

RN 22476-76-2 CAPLUS
CN Piperazinone, 3,3-diphenyl- (8CI, 9CI) (CA INDEX NAME)

RN 100253-41-6 CAPLUS
CN 2-Piperazinone, 3-ethyl-3-phenyl- (6CI) (CA INDEX NAME)

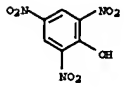
RN 860229-16-9 CAPLUS
CN 2-Piperazinone, 3,3-diphenyl-, picrate (6CI) (CA INDEX NAME)

CM 1

CRN 22476-76-2
CMF C16 H16 N2 O

CM 2

CRN 88-89-1
CMF C6 H3 N3 O7



L7 ANSWER 114 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1959:94883 CAPLUS
DOCUMENT NUMBER: 53:94883
ORIGINAL REFERENCE NO.: 53:17156g-i
TITLE: Piperazine derivatives
INVENTOR(S): Haberl, Roman
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AT 201601		19590110	AT	

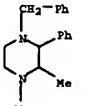
AB New racemic or optically active piperazine derivs. are prepared by condensing racemic or optically active N-substituted 1,5-dihalo-3-azapentenes with primary amines and optionally preparing the respective salts by reaction with inorg. or organic acids, or the respective quaternization products by reaction with alkyl or benzyl halides. Preferably, condensation is effected in the presence of an addnl. alkaline condensing agent and an aqueous organic solvent between room temperature and approx. 80-120°. Thus, a solution of 2.0 g. N-(β-chloroethyl)-1-chloro-1-phenyl-2-aminopropane, 0.8 g. BzNH2, and 1 g. dry K2CO3 in 30 cc. EtOH was refluxed 9 hrs., filtered, the filtrate evaporated in vacuo, petr. ether added to the residue, cooled, and the precipitate filtered off, to give 0.7 g. 1-benzyl-2-phenyl-3-methylpiperazine, m. about 133°; HCl salt m. 268° (decomposition). In similar manner, 1,2-diphenyl-3-methylpiperazine, b0.005 156° [HCl salt m. about 274° (decomposition)], 1-butyl-2-phenyl-3-methylpiperazine, b0.05 90-100°, 1-benzyl-2-phenyl-3,4-dimethyl-piperazine, b0.01 130-40°, and 1,2-diphenyl-3,4-dimethylpiperazine, b0.01 120°, m. about 68°, have been prepared The salts of the new compds. are of therapeutical value.

IT 101260-46-2, Piperazine, 1-butyl-3-methyl-2-phenyl-
101784-82-1, Piperazine, 1-benzyl-3-methyl-2-phenyl-
102008-15-1, Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl-
111440-10-9, Piperazine, 1-benzyl-3-methyl-2-phenyl-, hydrochloride
(preparation of)

RN 101260-46-2 CAPLUS
CN Piperazine, 1-butyl-3-methyl-2-phenyl- (6CI) (CA INDEX NAME)

RN 101784-82-1 CAPLUS
CN Piperazine, 1-benzyl-3-methyl-2-phenyl- (6CI) (CA INDEX NAME)

RN 102008-15-1 CAPLUS
CN Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl- (6CI) (CA INDEX NAME)



RN 111440-10-9 CAPLUS
CN Piperazine, 1-benzyl-3-methyl-2-phenyl-, hydrochloride (6CI) (CA INDEX NAME)

● HCl

L7 ANSWER 115 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1959:72603 CAPLUS
DOCUMENT NUMBER: 53:72603
ORIGINAL REFERENCE NO.: 53:13169d-i,13170a
TITLE: Preparation of C-methyl-C-phenyl substituted piperazines
AUTHOR(S): Haberl, R.
CORPORATE SOURCE: Univ. Vienna
SOURCE: Monatshefte fuer Chemie (1958), 89, 798-805
CODEN: MOCMB7; ISSN: 0026-9247
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 53:72603
GI For diagram(s), see printed CA Issue.

AB N-(β-Hydroxyethyl)-DL-norephedrine (I) and N-(β-hydroxyethyl)-DL-ephedrine (II) were converted to the corresponding chloro compds., ClCHPhCHMeNHCH2CH2Cl (III) and ClCHPhCHMeNMeCH2CH2Cl (IV), and transformed by ring closure with primary aliphatic and aromatic amines to the corresponding substituted 2-methyl-3-phenylpiperazines, RN.CHMe.CHPh.NR'.CH2.CH2 (V). I. HCl (80.0 g.) heated 30 min. with 240 ml. SOCl2 at about 50°, the excess SOCl2 evaporated in vacuo, the residue decomposed with cracked ice and the solution made strongly alkaline, the product extracted with Et2O, the dried (Na2SO4) extract evaporated, and the residue distilled yielded 60.5% III, b0.1 85°; HCl salt m. 177° (decomposition) (alc.); p-nitrobenzoate m. 173° (petr. ether). I.HCl (20.0 g.) stirred at -20° (ice-salt cooling) in 200 ml. CHCl3 and gradually treated with 40 g. PCl5, the CHCl3 distilled in vacuo and the residue cautiously decomposed with water, made strongly alkaline, and extracted with Et2O yielded 53.8% III. II.HCl (30.0 g.) treated with 90 ml. SOCl2 and the mixture worked up as above yielded 60.5% IV, b0.1 110°. III (10.0 g.) and 8.0 g. PhNH2 refluxed 8 hrs. in 10 ml. absolute alc., the alc. distilled in vacuo and the residue decomposed with water, the mixture made strongly alkaline, extracted with Et2O, and the dried (Na2SO4) extract distilled yielded 60% V (R = H, R' = Ph) (VI), b0.05 156°; HCl salt m. 270-4° (decomposition). Similarly, III and IV were converted into V by treatment with the appropriate primary amine [dichloro compds., primary amine, piperazine (R, R' given), m.p. or b.p./mm., and % yield given]: III, PhNH2, H, Ph, 156°/0.05, 60; III, PhCH2NH2, H, PhCH2 (VII), 133°, 12.1; III, BuNH2, H, Bu, 95°/0.05, 80; IV, PhNH2, Me, Ph (VIII), 68° (120°/0.01), 99; IV, PhCH2NH2, Me, PhCH2 (IX), 130-40°/0.01, 69. III (38.2 g.) and 19.7 g. iso-PrNH2 in 40 ml. absolute alc. refluxed 8 hrs. and the mixture worked up gave 31.0 g. MeCHNHCHPhCHMeNHCH2CH2Cl, b0.01 65°; HCl salt m. 202°. VII (2.0 g.) in 150 ml. alc., 10 ml. N HCl, and 40 ml. H2O hydrogenated 6 hrs. with 0.2 g. 10% Pd-C, the filtered solution evaporated in vacuo, the residue taken up in a min. of water and made strongly alkaline, extracted with Et2O, and the dried (Na2SO4) extract evaporated gave 1.3 g. crystals, recrystd. with cooling from petr. ether to give V (R = R' = H), m. 78°; HCl salt m. 290-5° (sublimation). IX (3.5 g.) in 150 ml. alc., 30 ml. 0.1N HCl, and 30 ml. H2O hydrogenated 5 hrs. with 0.2 g. 10% Pd-C, the filtered solution evaporated, and the residue worked up yielded 94% V (R = Me, R' = H), m. 61° (after sublimation at 50°/0.001 mm.); HCl salt m. 170-84° (decomposition). VIII (1.1 g.) heated 14 hrs. on a steam bath with 1 g. HCHO and 1 g. HCO2H, the mixture treated with 1 ml. concentrated HCl and evaporated, the residue taken up in water and the solution made strongly alkaline, extracted with Et2O, and the dried (Na2SO4) extract distilled yielded 60% IX.

IT 104096-26-6, Piperazine, 2-methyl-3-phenyl-
(and derivs.)

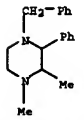
RN 104096-26-6 CAPLUS
CN Piperazine, 2-methyl-3-phenyl- (6CI, 9CI) (CA INDEX NAME)

IT 101260-46-2, Piperazine, 1-butyl-3-methyl-2-phenyl-
101784-82-1, Piperazine, 1-benzyl-3-methyl-2-phenyl-
102008-15-1, Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl-
110489-42-4, Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl-, hydrochloride 111440-10-9, Piperazine, 1-benzyl-3-methyl-2-phenyl-, hydrochloride 131254-31-4, Piperazine, 1-butyl-3-methyl-2-phenyl-, hydrochloride 860224-68-6, Piperazine, 1,2-dimethyl-3-phenyl-, hydrochloride 860224-73-3, Piperazine, 1,2-dimethyl-3-phenyl-
(preparation of)

RN 101260-46-2 CAPLUS
CN Piperazine, 1-butyl-3-methyl-2-phenyl- (6CI) (CA INDEX NAME)

RN 101784-82-1 CAPLUS
CN Piperazine, 1-benzyl-3-methyl-2-phenyl- (6CI) (CA INDEX NAME)

RN 102008-15-1 CAPLUS
CN Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl- (6CI) (CA INDEX NAME)

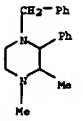


RN 110489-42-4 CAPLUS
CN Piperazine, 1-benzyl-3,4-dimethyl-2-phenyl-, hydrochloride (6CI) (CA INDEX NAME)

● HCl

RN 860224-73-3 CAPLUS
CN Piperazine, 1,2-dimethyl-3-phenyl- (6CI) (CA INDEX NAME)

L7 ANSWER 116 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1956:52646 CAPLUS
DOCUMENT NUMBER: 50:52646
ORIGINAL REFERENCE NO.: 50:10099g-i,10100a-i,10101a-d
TITLE: Cyclization of α-(β-aminoethylamino) ketones. Peroxides of 2,3-diphenyl-2,3-dehydropiperazines
AUTHOR(S): Lunsford, Carl D.; Lutz, Robert E.; Bowden, Edward E.
CORPORATE SOURCE: Univ. of Virginia, Charlottesville
SOURCE: Journal of Organic Chemistry (1955), 20, 1513-30
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 50:52646
GI For diagram(s), see printed CA Issue.
AB cf. C.A. 42, 7745d; 49, 9883g. To study further the effect of structure on the ring-chain tautomerism of α-(β-hydroxyethylamino) ketones an attempt has been made to prepare the α-(β-aminoethylamino)-α-phenylacetophenone analogs, BzCHPhNRCH2CH2NHR' and HOCPh.CHPh.NR.CH2.CH2.NR'. Heating α-(β-hydroxyethylamino)-α-phenylacetophenone with a large excess of SOCl2 20 min. at 70° gives 45% α-(β-chloroethylamino)-α-phenylacetophenone-HCl (I), m. 233-5° (free base m. 65-6°, decompose on standing). α-[N-(β-Chloroethyl)ethylamino]-α-phenylacetophenone (II), 57%, m. 49-9.5° [HCl salt has λmaximum 248 mμ, ε 12,320 (EtOH)]. Refluxing 1 g. II 4 hrs. in 10 cc. H2O and 15 drops concentrated HCl, making the solution basic, and extracting with Et2O give 43% 4-ethyl-2-hydroxy-1,2-diphenylmorpholine-HCl. α-(N-Benzyl-β-chloroethylamino)-α-phenylacetophenone (III), 70%, m. 94.5-6°, is relatively stable at 20° (HCl salt, m. 185-6°). Refluxing 1 g. III 2 min. in 10 cc. absolute EtOH containing 0.07 g. Na, then adding another 10 cc. EtOH, refluxing the solution 3 min., and filtering the hot soluble give 56% O.CPh:CPh.N(CH2Ph).CH2.CH2 (IV), m. 136.5-8.5°. Under the same conditions O.CPh(OH).CHPh.N(CH2Ph).CH2.CH2 does not give IV. Adding (15 min.) 9.1 g. III in 500 cc. Et2O to 1.5 g. LiAlH4 in 200 cc. Et2O, keeping the mixture 0.5 hr., adding H2O and concentrated KOH, extracting with Et2O, and treating the extract with HCl in Et2O gives 18.5% 2-(N-benzylethylamino)-1,2-diphenylethanol-HCl, m. 228.5-9°. Heating 4 hrs. under partial reflux 3.1 g. I, 8.2 g. (Me2CHO)3Al, and 100 cc. Me2CHOH, collecting 40 cc. distillate, evaporating the solution in vacuo, and treating the residue with 30% aqueous NaOH give 91% 2-(2-chloroethylamino)-1,2-diphenylethanol (V), m. 138.5-9.5° (HCl salt, m. 218-20°). Adding 10 g. I in small portions to 1.5 g. LiAlH4 in 100 cc. absolute Et2O, stirring the mixture another 20 min., and hydrolyzing it with 50% KOH give 85% V. Refluxing 1.5 g. V. HCl 10 min. with 5 cc. SOCl2 gives 70% 2-chloro-1-(β-chloroethylamino)-1,2-diphenylethane-HCl, m. 214-16° (decomposition). Heating 6.2 g. I and 20 g. PhCH2NH2 2 hrs. at 83°, extracting the mixture with Et2O, and concentrating the washed (H2O) and dried extract in vacuo give 39% 1-benzyl-2,3-diphenyl-2,3-dehydropiperazine peroxide (VI), m. 117-18° (decomposition); with EtOH as a solvent 33% VI is obtained. From the mother liquors BzNHCH2CH2N(CH2Ph)Bz (VII) is isolated in considerable amount Heating 2 g. III in 20 cc. EtOH containing 0.055 mole NH3 1-2 hrs. at 75° under pressure and pouring the mixture into H2O give 42% VI, which is also obtained in 42% yield when 16.5 g. PhCH2NHCH2CH2NH2. (VIII), 21.2 g. benzoin, and 1 g. P2O5 are heated 2-3 hrs. at 100°. VI decompose partially on standing for some time or on recrystn. from EtOH or dioxane and forms VII, m. 186-7°. VII is synthesized by treating VIII with BzCl in a Schotten-Baumann reaction. Heating 1 g. VI in 25 cc. 3N HCl 10 min. at 100°, making the cooled solution alkaline, filtering off the benzil formed, and treating the filtrate with BzCl give almost 100% VII. Catalytic reduction of 1.78 g. VI 24 hrs. with 0.03 g. PtO2 in 100 cc. 95% EtOH causes the absorption of 3 moles H with the formation of 72% 2-[β-(benzylamino)ethylamino]-1,2-diphenylethanol (IX), m. 106.5-7.5°, which is also obtained in 93% yield when 7.6 g. V and 10 cc. PhCH2NH2 are heated 3 hrs. at 100°. Adding in small portions 9.4 g. VI to 4 g. LiAlH4 in 400 cc. absolute Et2O at such a rate as to maintain gentle reflux, stirring the mixture another 3 hrs., and hydrolyzing it with 40% KOH give 70% 1-benzyl-2,3-diphenylpiperazine (X), m. 112-13°, which is identified by conversion with PhCH2Br into 1,4-dibenzyl-2,3-diphenylpiperazine (XI), m. 105.5-6°. Adding slowly 2.34 g. 2,3-diphenyl-5,6-dihydropyrazine (XII) in 250 cc. Et2O to 0.5 g. LiAlH4 in 100 cc. absolute Et2O with gentle reflux, stirring the mixture 4 hrs., and decomposing it with 20% KOH give 84% β*-2,3-diphenylpiperazine which (0.6 g.), refluxed 3 hrs. with 0.86 g. PhCH2Br and 1.38 g. K2CO3 in 100 cc. 95% EtOH, gives XI. Adding (15 min.) 9.1 g. III to 5.3 g. PhCH2NH2 in 50 cc. absolute EtOH and refluxing the mixture 1 hr. give 83% 1,4-dibenzyl-2,3-dehydropiperazine (XIII), m. 120-1°, which is recovered unchanged when refluxed 1 hr. at 100° with 3N HCl. Adding (0.5 hr.) 11.5 g. desyl chloride (XIV) to 24 g. (CH2NHCH2Ph)2 (XV) in 200 cc. C6H6, refluxing the mixture 1 hr., filtering off the XV.HCl, and concentrating the filtrate give 22% XIII. When the experiment is carried out in EtOH instead of C6H6, 1,4-dibenzyl-2-ethoxy-2,3-diphenylpiperazine (XVI) is formed instead of XIII. In a typical experiment, 12 g. XV and 5.8 g. XIV are refluxed 2 hrs. in EtOH and the mixture is kept overnight, giving 23% XIII; pouring the alc. mother liquor into H2O gives 3% XVI, m. 94-6°. In 1 experiment 48% XVI was obtained. Refluxing XVI 2 hrs. with LiAlH4 in Et2O is without effect. An attempt to prepare the 2-methoxy analog led only to XIII. Adding (45 min.) 11.5 g. XIV to 30 g. (CH2NH2)2 at 70°, pouring the mixture into H2O, and making the solution alkaline with Na2CO3 give 41% XII, m. 157-60°. Heating 21.2 g. benzoin, 17.5 g. Et2NCH2CH2NH2, and 1 g. P2O5 4 hrs. on a water bath, extracting with Et2O, and treating the washed and dried Et2O solution with HCl-Et2O give 33% α-(βdiethylaminoethylamino)-α-phenylacetophenone-2HCl.H2O, m. 231-4° (decomposition), which (5 g.), reduced with 0.91 g. LiAlH4 in Et2O, gives 75% 2-(β-diethylaminoethylamino)-1,2-diphenylethanol, m. 103.5-5.5°.



● HCl

RN 111440-10-9 CAPLUS
CN Piperazine, 1-benzyl-3-methyl-2-phenyl-, hydrochloride (6CI) (CA INDEX NAME)

● HCl

RN 131254-31-4 CAPLUS
CN Piperazine, 1-butyl-3-methyl-2-phenyl-, hydrochloride (6CI) (CA INDEX NAME)

● HCl

RN 860224-68-6 CAPLUS
CN Piperazine, 1,2-dimethyl-3-phenyl-, hydrochloride (6CI) (CA INDEX NAME)

Condensation of I with EtNHR gives 34% 2,3-diphenyl-1-ethyl-2,3-dehydropiperazine peroxide (XVIII), m. 103-3.5°; when the reaction is carried out 1 hr. at 85°, 43% XVII is obtained and, in the presence of P2O5, the yield is 53%. XVII liberates iodine from acidified KI. Heating 1 g. H2NCHPhCH2NHR2, 1.5 g. benzoin, and 0.02 g. P2O5 2 hrs. on a steam bath, dissolving the resulting sirup in 6 cc. 95% EtOH, and adding 2 cc. concentrated HCl give 76% α-(β-anilinoethylamino)-α-phenylacetophenone-2HCl (XVIII), m. 224° (decomposition). XVIII, kept in H2O, is hydrolyzed to 1,2,3-triphenyl-2,3-dehydropiperazine (XIX), m. 117°, which was formulated by Gabriel and Eschenbach [Ber. 31, 1501 (1898)] as 1,2,3-triphenyl-3,4-dehydropiperazine. When XIX is treated with concentrated HCl 1 hr. XVIII crystallizes. Passing dry air 1 hr. into 1 g. XIX in Et2O with ice-cooling gives 64% XIX peroxide, m. 126° (decomposition). Adding slowly 1 g. XVIII to 0.5 g. LiAlH4 in 200 cc. Et2O, stirring the mixture 1 hr., and hydrolyzing it with concentrated KOH gives 96% 2-(β-anilinoethylamino)-1,2-diphenylethanol (XX), m. 133-5.5°. When 2.75 g. V and 2 g. PhNH2 are refluxed 2 hrs. in 20 cc. 95% EtOH, 68% XX.HCl, m. 226.5-7° (decomposition), is obtained. Refluxing 2 g. PhNH2, 3.1 g. I, and 10 cc. 95% EtOH 12 hr., partitioning the reaction mixture between Et2O and H2O, and recrystg. the residue of the Et2O solution give 55% α-anilino-β-phenylacetophenone, m. 96.5-8°, which is also obtained in 16% yield when XVII and PhNH2 are refluxed 6.5 hrs. in EtOH. The factors influencing the ring-chain tautomerism of α-(β-aminoethylamino) ketones are discussed. Cyclization is favored by the tertiary character of the " α-N" and by the basic and secondary character of " β-N." 31 references.

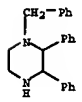
IT **143699-24-5**, Piperazine, 2,3-diphenyl- **146362-57-4**, Piperazine, 1-benzyl-2,3-diphenyl-
(preparation of)

RN 143699-24-5 CAPLUS

CN Piperazine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

RN 146362-57-4 CAPLUS

CN Piperazine, 2,3-diphenyl-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



L7 ANSWER 117 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1948:21375 CAPLUS

DOCUMENT NUMBER: 42:21375

ORIGINAL REFERENCE NO.: 42:4581h-i,4582a-e

TITLE: Experimental chemotherapy of filariasis. IV. The preparation of derivatives of piperazines

AUTHOR(S): Stewart, H. W.; Turner, R. J.; Denton, J. J.; Kushner, S.; Brancone, L. M.; McEwen, W. L.; Hewitt, R. I.; Subbarow, Y.

CORPORATE SOURCE: Am. Cyanamid Co., Pearl River, NY

SOURCE: Journal of Organic Chemistry (1948), 13, 136-43
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 42:21375

GI For diagram(s), see printed CA Issue.

AB cf. C.A. 42, 2019b. Some mono- and di- substituted piperazine derivs. RN.CH2.CH2.NR'.CH2.CH2 (I) are prepared to be tested as antifilarials. Hydrolysis of the 1-carbethoxy-4-alkylpiperazines with concentrated HCl according to Moore, et al. (C.A. 33, 2183), gives the corresponding 4-alkylpiperazines. The following I are prepared (R and R' given): Me, H (II), 74% yield, b760 134-6° (di-HCl salt, 94.6%, crystallizing with 1 H2O, m. 82.5-3° (corrected)); Me, Me, 70%, b760 131-3° (corrected) (di-HCl salt, crystallizing with 2/3 H2O, m. 251.5-3° (corrected (decomposition)); Me, CH2CH2NMe2, di-H Cl salt, 58%, m. 262-4°; Me2CH, H, di-HCl salt (III), 90%, m. 274-5° (decomposition); Ph, H (IV), 31.5%, b15 161-4° (corrected) (di-HCl salt m. 245-7° (corrected)); Ph, Me, 70.5%, b8 130-1° (corrected) (di-HCl salt, 94.5%, m. 180-2° (corrected) (decomposition)); MeO2C, H, 37%, b7 112-16°; MeO2C, Me, 16%, m. 116-21°; MeO2C, MeO2C, 2%, b11 163°; EtO2C, H (V), di-HCl salt, 47%, m. 156.5-7°(corrected); EtO2C, Me(VI), 96%, b8 97-8° (corrected) (di-HCl salt, 96%, m. 168-9° (corrected)); EtO2C, Et (VII), 82%, b28 132°; EtO2C, Pr (VIII), 73%, b16 136° (di-HCl salt m. 189-92°); EtO2C, iso-Pr (IX), 75%, b19 138-44°; EtO2C, Bu (X), 64%, b8 139-40°; EtO2C, iso-Bu, 63%, b1 93.5-4°; EtO2C, sec-Bu (XI), 40%, b18 139-47° (di-HCl salt m. 218-21° (decomposition)); EtO2C, n-C7H15, 86%, b4 159-61° (corrected); EtO2C, MeCH:CH2, 81.7%, b6 113-15° (corrected); EtO2C, HOCH2CH2, 72%, b12 175-7°; EtO2C, EtO2CCH2, 75%, b2 123-5°; EtO2C, Ph, prepared in 92% yield by refluxing 54.7 g. IV.2HCl, 29.8 g. EtO2CCl, and 69.2 g. NaHCO3 in 150 cc. absolute EtOH 3 hrs., m. 61-1.5° (corrected) (di-HCl salt m. 197-8° (corrected) (decomposition)); EtO2C, PhCH2, di-HCl salt, 86%, m. 218-18.5° (corrected); EtO2C, EtCO, 8%, b3 131-3°, m. 45-6°; BuO2C, H, 46%, b10 141-3°; BuO2C, BuO2C, 5.2%, b10 205-8°; iso-BuO2C, H, 52%, b13 138-42°; iso-BuO2C, iso-BuO2C, 7.3%, b15 203-5°. Bis(1-carbethoxy-4-piperazyl)methane, 95.7%, m. 61.5-2.5° (corrected); 1,2-bis-(1-carbethoxy-4-piperazyl)ethane, 86.4%, b12 258-62° (corrected), m. 80-80.5°. 2,3-Diphenyl-5,6-dihydropyrazine (150 g.) hydrogenated in 350 cc. absolute EtOH in the presence of CuO-Cr2O3 2 hrs. at 150° and 1000 lbs., gives 72.5% β-2,3-diphenylpiperazine (XII), m. 108-9° (corrected) (di-HCl salt (XIIa) m. 310-11° (corrected) (decomposition)); XII regenerated from XIIa m. 110-10.5° (corrected). SO2Cl2 (4 g.) added to 10 g. II in 30 cc. ice-cooled CHCl3 gives 32% 1,1'-sulfonylbis(4-methylpiperazine), m. 89-90.5°. Refluxing 10 g. Et2NCH2CH2Cl.HCl, 13.4 g. II.2HCl.H2O, and 14.9 g. NaHCO3 in 100 cc. 95% EtOH 18 hrs. gives 1-methyl-4-(2-dimethylaminoethyl)piperazine-2HCl, m. 262-4°. 1-Carbethoxy-2(3?)-methylpiperazine, 60%, b18 127-9°; 1,4-dicarbethoxy-2-methylpiperazine (XIII), 74%, b16 173-5°. Of these compds. II, III, VI-X, and XIII show slight, and V good antifilarial activity.

IT **143699-24-5**, Piperazine, 2,3-diphenyl- **856842-25-6**, Piperazine, 2,3-diphenyl-, dihydrochloride
(preparation of)

RN 143699-24-5 CAPLUS

CN Piperazine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

RN 856842-25-6 CAPLUS

CN Piperazine, 2,3-diphenyl-, dihydrochloride (5CI) (CA INDEX NAME)

●2 HCl

L7 ANSWER 118 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1947:29293 CAPLUS

DOCUMENT NUMBER: 41:29293

ORIGINAL REFERENCE NO.: 41:5806e-g

TITLE: The configuration of geometrical isomers of 2,3-diphenylpiperazine

AUTHOR(S): Hayashi, Taro

SOURCE: Scientific Papers of the Institute of Physical and Chemical Research (Japan) (1941), 38, 466-86
CODEN: SPIPAG; ISSN: 0020-3092

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The constitution of α- and β-2,3-diphenylpiperazines, which were obtained by the reduction of 2,3-diphenylpyrazine, was confirmed by the preparation from 5,6-diphenyl-2,3-dihydropyrazine and 2,3-diphenyl-2,3-dihydropyrazine. The multiplanar configuration of the piperazine ring is discussed. The resolvability of α- and β-diphenylpiperazines was tested by the recrystn. of the mono-d-tartrate and α-bromocamphor-π-sulfonate of the α-isomer and the α-bromocamphor-π-sulfonate and d-methylenecamphor derivative of the β-isomer. After fractional recrystn., α-diphenylpiperazine showed a small rotatory power, but the β-isomer showed no rotatory power. It is concluded that the α-isomer has the trans form and the β-isomer the cis form. The absorption spectra of the α- and β-isomers are quite similar.

IT **143699-24-5**, Piperazine, 2,3-diphenyl-
(preparation of)

RN 143699-24-5 CAPLUS

CN Piperazine, 2,3-diphenyl- (9CI) (CA INDEX NAME)

L7 ANSWER 119 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1947:20687 CAPLUS

DOCUMENT NUMBER: 41:20687

ORIGINAL REFERENCE NO.: 41:4156c-f

TITLE: Derivatives of piperazine. XXI. Synthesis of piperazine and C-substituted piperazines

AUTHOR(S): Kitchen, Leland J.; Pollard, C. B.

CORPORATE SOURCE: Univ. of Florida, Gainesville

SOURCE: Journal of the American Chemical Society (1947), 69, 854-5
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

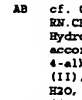
OTHER SOURCE(S): CASREACT 41:20687

AB cf. C.A. 37, 5972.6. HO(CH2)2NH(CH2)2NH2 (I) (150 g.) and 5 g. Raney Ni, refluxed 2.5 hrs., give 32% piperazine (II). I (85 g.) and 10 g. Raney Ni in 400 cc. dioxane, heated 3 hrs. in an autoclave at 200°, give 51% II; Cu chromite (3 hrs. at 275°) gives 45%; CuO (3 hrs. at 275°) gives 43%; Fe (H reduced) (3 hrs. at 300°) gives 26%; activated Al2O3 (3 hrs. at 300°) gives 20%; and SiO2 gel (3 hrs. at 300°) gives 17.4%. Other catalysts give much lower yields. MeCH(OH)CH2NH(CH2)2NH2 (225 g.) and 10 g. Raney Ni in 350 ml. dioxane, heated 5 hrs. at 185-203°/200 lb./sq. in. H pressure, give 70% of the 2-Me derivative of II. PhCH(OH)CH2NH(CH2)2NH2 (108 g.) in 300 ml. dioxane, agitated with Raney Ni 3.5 hrs. at 220°, yields 32% 2-phenylpiperazine, b10 138°, m. 87.5-7.8° (m. ps. corrected); di-HCl salt m. about 335° (decomposition); di-NO derivative m. 69.9-70.2°; di-Ac derivative m. 70.1-1.2°; picrate m. about 276° (decomposition).

IT **5271-26-1**, Piperazine, 2-phenyl-
(and derivs.)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



L7 ANSWER 120 OF 120 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1946:25761 CAPLUS

DOCUMENT NUMBER: 40:25761

ORIGINAL REFERENCE NO.: 40:5076c-e

TITLE: Piperazine and derivatives

INVENTOR(S): Pollard, Cash B.; Kitchen, Leland J.

PATENT ASSIGNEE(S): Board of Commissioners of State Institutions
Tallahassee

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2400022		19460507	US	

AB A method is described for the removal of H2O from N-(2-hydroxyethyl)ethylenediamine (I) and its derivs. to form piperazine (II) and substituted piperazines. A mixture of 85 parts I, 400 parts dioxane (III), and 10 parts Raney Ni is heated and agitated in a closed vessel at 200 ± 5° for 3 hrs. The catalyst is removed by filtration and the filtrate distilled to give 42% (based on I used) of II, b.

140-50°. Other catalysts useful in producing II are Pd on activated charcoal, activated Al2O3, silica gel, and Cu chromite (IV). Raney Ni catalyst is also used in the absence of III as a solvent or with diethyl carbitol solvent. N-(2-Hydroxypropyl)ethylenediamine (59 parts) mixed with 350 parts III and 10 parts IV is heated under 500 lb. pressure and agitated at 275° for 3 hrs. Distillation gives 50% of 2-methylpiperazine, b. 152.8°. 2-Phenylpiperazine, b. 138°, is prepared similarly in 33% yield from N-(2-hydroxy-2-phenylethyl)ethylenediamine.

IT 5271-26-1, Piperazine, 2-phenyl-
(preparation of)

RN 5271-26-1 CAPLUS

CN Piperazine, 2-phenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

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